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UNIVERSALITY AND PARTICULARITY OF
ARISTOTELIAN SUBSTANCES

A dissertation submitted to the University of Bristol
in accordance with the requirements for
award of the degree of Doctor of Philosophy
in the Faculty of Arts

by Erman KAR

Department of Philosophy

University of Bristol

November 2018

AUTHOR'S DECLARATION

I, Erman Kar, declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: DATE:.....

ABSTRACT

The primary question of this project is whether Aristotelian substantial forms are universals or particulars, or neither or both. In other words, the question is whether Aristotelian forms are peculiar to each particular being, or whether they are identical for all particular members of a kind. My position is that substantial forms are both universal and particular. I argue the primary question cannot be answered if the status of form in Aristotelian ontology is considered alone. I address the problem by looking at the ontological relation between universal and particular entities, besides their substantiality.

This thesis is divided into six chapters. The first and second chapters cover the Aristotelian background to the problem. In the third and fourth chapters, I discuss some important entities of the *Four-Category Ontology* of Jonathan Lowe, and the relations between three of these entities: form, universals and particulars. Jonathan Lowe defends a version of Aristotelian metaphysics. Especially, Lowe claims that both particulars and universals are substantial, since the ontological relation between universal and particular is symmetrical rather than asymmetrical. Next, in the fifth and sixth chapters, I analyse, firstly, the problem of knowledge in terms of the universality of substantial entities, and, secondly, the problem of individuation in terms of the particularity of substantial entities.

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INTRODUCTION

Metaphysics Zeta, which is devoted to the notion of substance, has been at the center of heated debate over the last fifty years, and has caused huge controversy (Galluzzo, 2007, p.423). This debate addresses two different specific problems in Aristotle's ontology. The first problem arises because scholars mainly accept that the general conclusion of *Zeta* is that primary substances are forms of sensible objects. This conclusion is a departure from Aristotle's ontology in the *Categories*, in which the primary substances are sensible objects *themselves*. The tension between these different results has been discussed among contemporary Aristotelian scholars. Some claim that Aristotle is inconsistent, since he claims different results for the same problem (Wallace, 1882, p.39). Others say that Aristotle's theory is not inconsistent, because Aristotle addresses the same issue, but with a different methodology.¹

The second problem for Aristotle's substance theory is related to the first and is sketched as follows: if it is true that Aristotelian substances are *the forms of sensible objects*, as he writes in *Zeta*, the question arises over whether these forms or substances are universal or particular.² Some scholars claim that Aristotle explicitly writes that substances are particulars, since he defines substances by the notion of *tode ti* (this something).³ However, some others claim that Aristotelian

¹ For example, Wedin (2005) claims that in the *Categories* Aristotle asks which entities are primary substances and/or which entities are fundamental items. On the other hand, in the *Metaphysics*, some different kinds of questions are raised over what is the substance of the object in the *Categories*, or what is the substance of sensible objects, but in the *Metaphysics* Aristotle analyses sensible objects in terms of matter and form. He claims that form is the substance of sensible objects, or it is the thing which accounts for the substantiality of sensible objects. Galluzzo (2007, p.426) writes, "Form is not a substance alongside sensible objects, but is rather the substance of sensible objects, that is an inner principle ultimately depending for its existence on the individual object it exists in."

² It is related because the general acceptance of incompatibilists is that the primary substances in the *Categories* are particular, but it is universals (form) in *Zeta*.

³ "Substance must be 'separate' (*chôriston*) and 'some this'" (*tode ti*) (*Met*, 1029a28), and he is implying that matter fails to meet this requirement, and the result of *Zeta* is that substances are form and particular. Some scholars who claim Aristotelian substances are particular are Frede (1987a), Irwin (1988), Hartman (1976), Frede and Patzig (1998).

substances are universals, since if they are particulars it would be impossible to define and know particular substances, hence Aristotle writes that the definition is of universals (*Met*, 1036a29).⁴ It is obvious that this main problem over whether Aristotelian substances are universal or particular demands discussion of the ontological relation between *universality* and *particularity*. This is the reason that, in this project, my main argument is that Aristotelian substances are not only particular, but are also universal, since the dualism between universal and particular in his ontology is not particularly strong. It is also the reason why I argue that the ontological relation between universals and particulars is symmetrical rather than asymmetrical, and this makes universals and particulars mutually-dependent entities. This relation is the reason why Aristotelian substances are both particulars and universals.⁵

I support my view with a neo-Aristotelian substance theory called the *Four-Category Ontology* due to Jonathan Lowe. This new ontology is mainly inspired by the *Categories*, and claims that there are four basic entities, as Aristotle mentions in the second chapter of the *Categories*. These are: kinds, objects, attributes and modes. According to Lowe, objects and kinds correspond to primary and secondary substances, respectively. The main reason to discuss Aristotle's substance theory with a contemporary approach is that Lowe, in his ontology, claims that both universal entities and particular entities are substantial, because of the ontological relation which they have. I argue that the problem of the status of Aristotelian substances is solved only by analysing the relations and status of universals and particulars. The Four-Category Ontology seems to claim that the relation between universal and particular entities is symmetrical rather than asymmetrical, and this relation makes both of them substantial.

The main problem of this project is formulated by the *aporia* which is discussed by Aristotle in his *Metaphysics*: **whether principles are universals or particulars**.⁶ In the same work, Aristotle

⁴ Some scholars who claim that Aristotelian substances are universals are Modrak (1979), Woods (1967) and Sykes (1975).

⁵ I prefer to use mutual-dependency rather than interdependency, when I mention the ontological relation between universals and particulars. This is so because, in definition, interdependency provides the same kind of dependency. However, according to the principle of mutual dependency, I claim that particulars are dependent on universals, but not in the same sense of universal entities which depend on particular entities. They both depend on each other, as I argue, but in a different sense. For instance, particular entities are instances of kinds (e.g. universal entities), and kinds are instantiated by particular entities. The ontological relation between them, e.g. *instantiation*, makes them mutually-dependent. This will be made clearer especially in Chapter 4.

⁶ "An *aporia* is the form of a question, a particular puzzle, or a particular problem" (Politis, 2004, p.70).

explicitly claims that, especially in *Zeta*, *principles are forms*, and *forms are substances*. Moreover, in *Zeta* 13, Aristotle says that *no universal can be a substance*. These two statements address the result that *forms are particular*. However, Aristotle puts forward another argument, again in *Zeta*, that *knowledge and definition is of forms and universals*. This statement, explicitly, endangers the possibility of the knowability of forms, if we accept that they are particular. The difficulties in Aristotle's *Zeta*, and why these difficulties cause a critical problem in his substance theory, can be summarised as follows. At the very beginning of *Zeta*, Aristotle presents two main requirements for substances: namely, substance must be 1) *tode ti* (this something), and 2) *a ti estin*, (what it is). According to the first requirement, a substance must be particular, because a universal entity corresponds to "a such" but not "a this". However, the second requirement argues that a substance must be universal; the "what is it question" corresponds to the most knowable entities, or in other words, universals. In short, this discrepancy is identified as being between the most real entities (particulars) and the most knowable entities (universals) (Leszl, 1972, p.278).

So, it seems that the main *aporia* includes three entities: forms, universals and particulars, and two questions arise in relation to the *aporia*: how universals might be substantial, if substance is peculiar to particular entities; and how those particular entities can be known if the knowledge and definition is of universals. In this project, I determine a methodology by analysing these three entities in conjunction with both the **historical background** of the problem and with a **contemporary approach**. In the first and the second chapters I discuss the historical background to the problem, especially in the Aristotelian corpus. It is usual to approach Aristotle's substance theory by analysing his main corpus, namely the *Categories* and the *Metaphysics Zeta*. Additionally, another traditional tendency is to analyse the *Categories* first. However, I have used the reverse methodology in this project, in that I start by discussing the status of forms in *Zeta*, and then discussing the *Categories*, before handling the new ontology which is inspired by the *Categories*. Moreover, it is useful to see clearly what the problem is first in terms of forms, and then in terms of the ontological relation between universal and particular entities in the *Categories*.⁷

⁷ Here and what follows, I rely on the Oxford translation, namely, *The Complete Works of Aristotle*, edited by Jonathan Barnes.

I provide a brief history of substance in Aristotelian metaphysics with some links to the primary problem, since substance theory will be analysed in relation to the problem of universals and particulars, and their status in this theory. Before providing details of substance theory, it is useful to consider the main idea of the *aporia* in *Metaphysics Beta*, namely whether principles are universal or particular. Next, it is useful to discuss the definition of universals and particulars in *De Interpretatione*, since this text has some mature arguments on the definition of these conceptions. Furthermore, in *Zeta*, Aristotle states that primary substances are forms rather than matter or compounds of matter and form. What Aristotle has in mind is considered, such as the question of what the features of forms are, especially those which signify that forms are particular. However, Aristotle outlines that knowledge and definition are of universal.

The general conclusion of *Zeta* is that *primary substances are prior to universals*. Additionally, in *Zeta* 13 and 16, Aristotle claims that no universal can be a substance. However, for Aristotle knowledge and definition are of universals. It seems that in terms of knowledge and definition, Aristotle makes *universals prior to primary substances*, and this causes an inconsistency in Aristotle's substance theory.⁸ Some textual evidence, as I mention below, signifies that primary substances are particular, and Aristotle insists during *Zeta* that they are forms, but some texts show that knowledge and definition are of form and of universal. Although this statement seems a sufficient reason for claiming that forms are universal, in *Zeta* there are many other statements which support this idea. There are *three* main possibilities for the status of form in *Zeta*, for two main reasons. Firstly, the *aporia* shows that there is a distinction between what is the most real (particulars) and what is the most knowable (universals); this means that forms may be either (1) universal or (2) particular.⁹ Secondly, many passages in *Zeta* about the status of form is ambiguous, and there is no explicit statement regarding their status. I argue that Aristotle has in mind two *sorts* of form: namely that forms are (3) both particular and universal.

Briefly, the status of forms is discussed with three subtitles, and textual evidence that forms are particular and forms are universal will be provided. I conclude the first chapter with another possibility for the status of forms by presenting some ideas put forward by scholars, namely that

⁸ This causes an inconsistency, because Aristotle explicitly writes that "primary substances are primary in every sense, in formula, in order of knowledge, and in time" (*Met.* 1028a32).

⁹ Aristotle identifies particulars as what the most real entities are, and universals, as the subject of knowledge and definition, as what most knowable entities are (*Post.A.* 72a1-5).

Aristotelian substances are both universal and particular.¹⁰ I agree with this idea, but the main criticism in this project is that many scholars promote this idea by ruling out the ontological relation between universals and particulars. This is the reason why I discuss in the second chapter the ontological relation between universals and particulars in Aristotle's ontology, especially in the *Categories*.

In the second chapter, I discuss mainly his notion of universals, which is related to his substance theory. The definition of universals and particulars and their status in his substance theory is analysed. Then, and most importantly, the relation between universal and particular entities is outlined. The only passage we have on their ontological relation in his corpus is the *Categories*. Aristotle identified their relation with two technical terms: namely *said of* a subject, and *being in* a subject. The *said of* relation could be defined as the relation between primary and secondary substances. For example, man (species, secondary substance) is *said of* a particular man (primary substance). The other relation, *being in*, corresponds to the relation between primary substances and non-substantial entities, e.g. quality, quantity. For instance, Socrates' paleness is *in* Socrates, and it is a dependent entity. As well as, these relations, Aristotle has a definition of primary substances: "they are neither *said of* a subject, nor *in* a subject" (*Cat.* 2a13). In other words, they are neither like universal entities, or species, e.g. secondary substances, nor non-substantial entities, such as the quality of redness.

The aim of the third chapter of the project is to develop a suggestion for addressing the main problem in Aristotle's *Metaphysics* (whether Aristotelian substances are particular or universal), by analysing a neo-Aristotelian substance theory: the Four-Category Ontology. I explain why this main *aporia* in Aristotelian substance theory needs a neo-Aristotelian approach, and how this new ontology could be a potential solution for the main problem of this thesis. Secondly, some of the main characteristics of Aristotelian substance theory and the Four-Category Ontology are compared, philosophically and linguistically. Lastly, my essential interpretation claims that the Aristotelian concepts of particular and universal are mutually-dependent and there is no sharp division between these entities, and this is the reason why the question of whether Aristotelian substances are particular or universal has the answer: they are both universal and particular.

¹⁰ Halper (1987, 2009), Scaltsas (2010), Novak (1963), Albritton (1957).

Does the argument that Aristotelian substantial forms are both universal and particular mean that there are two distinct substances? I claim that, according to the principle of mutual-dependency, there are no two distinct substances. This means that, for example, the form of a particular entity is particular, and, as a particular entity, this form is an instance of a universal entity which is instantiated by its particular instances. In another sense, this means that the form of Socrates is universal *qua* his species, and it is particular *qua* the essence of him. In the case of the claim that these entities are mutually-dependent, and in the case of their ontological relationship, it is possible to claim that they are not two distinct entities, *in definition*. Kinds or species in this sense are equivalent to substantial form, but I also claim that particular entities such as Socrates are form-particulars or particularised forms (Lowe, 2012, p.245). What I claim is that, as *entities*, it seems there are two substantial forms, but they are not two *distinct* entities, in definition and in the case of their ontological relations. This approach would be true in terms of Aristotelian realism (immanent realism). According to this realism, there are no un-instantiated universal entities, hence they are not able to exist separately from their instances.

Lowe, also, claims in his ontology that, according to the *fourfold ontology* of the *Categories*, Aristotle divides particulars and universals into the categories substantial and non-substantial.¹¹ However, in the second chapter of the *Categories*, Aristotle only names substantial particulars as primary substances, and he calls substantial universals secondary substances. He never mentions non-substantial particulars and universals, although some descriptions in his corpus suggest these entities. The definition of substances in Aristotelian ontology cannot be discussed without reference to his description of particulars. On the other hand, in the Four-Category Ontology, there are particulars that are substantial, and they have mostly the same characteristics as Aristotle's identification of particulars. The Four-Category Ontology has two positive important aspects for our problem as follows:

¹¹ In the *Categories*, Aristotle defines *four* main entities as basic entities, namely: (1) Substantial particulars (primary substances), (2) Substantial universals (secondary substances), (3) Non-substantial particulars, (4) Non-substantial universals (*Cat.* 1a20).

- 1- Lowe claims that the ontological relation between universal and particular is **symmetrical**, rather than **asymmetrical**. This means, as I argue, that universal and particular entities are **mutually-dependent** entities. Hence, there is no one-way dependency, as Aristotle writes in the *Categories*.¹²
- 2- Particular and universal entities have substantial roles in the Four-Category Ontology, since the former signifies *this-something* or something determined, and the latter signifies the answer to the question of *what that determined particular thing is*. Aristotle, as well, implicitly claims that substance has two main characteristics: *tode ti* (this-something) and *ti esti* (what something is).

Lowe puts forward two concepts to describe the ontological relationships among the categories or entities in his ontology: instead of *said of* a subject and *predicated in* it, he proposes the terms instantiation and characterisation. The relationship between a particular substance and its kind is one of *instantiation*; the relation between a particular substance and its properties is one of *characterisation*. Moreover, there is one more type of relation between a particular substance and non-substantial universal or property: *exemplification*. For example, “a ripe *tomato* instantiates the kind tomato, is characterised by a particular redness, and exemplifies a non-substantial universal — redness, and also the kind of tomato — which is characterised by the property of redness” (Lowe, 2006, p.22).

In the fourth chapter, before discussing and defining these three kinds of relations, it is useful to analyse some of the advantages of the Four-Category Ontology with regards to the primary question. Why has this kind of ontology been chosen as a methodology rather than one-category

¹² According to the traditional interpretation of Aristotelian substance theory, there is an asymmetry between particular substances and all other categories (universals, attributes etc.) with respect to the ontological dependency. This is so because, Aristotle explicitly claims that neither secondary substances (substantial universals) nor attributes are ontologically independent entities. One of the obvious arguments on the nature of primary substances in his substance theory is that they should be separated, and this argument holds that primary substances are prior to both non-substantial and secondary substances. However, according to the essentialist interpretation of Aristotelian substance theory, universal and particular entities are dependent on each other, since there is a symmetrical essential dependency between particular and universal entities. What I claim, with respect to the ontological relation between particular and universal entities, is that they are mutually-dependent entities.

or two-category ontologies? Some metaphysicians produce an ontology with only one category, for example trope theory¹³. On the other hand, some others claim that the most fundamental entities can be discussed under only two categories (e.g. particulars and universals).¹⁴ It could be said that such an ontology, which includes only substantial particulars and universals, is better for our problem, since the crisis in Aristotle's substance theory addresses whether substantial entities are universal or particular. However, at the beginning I claimed that the problem should be solved by focusing on the concepts of particularity and universality. Moreover, it is not possible to find a solution to the problem without mentioning *accidental* or non-substantial entities and their relations with substantial entities. For example, Aristotle defines primary substances as neither *said of* a subject nor *in* a subject. Naturally, questions arise over what kinds of entities are *said of* and what kinds of entities can be *present in* another entity. The former addresses the species or kinds – substantial universals – and the latter signifies the properties. Accordingly, Lowe's ontology includes four different categories, namely: individual substances (objects), universal substances (kinds), attributes (universal-properties) and modes (particular properties).

Briefly, the Four-Category Ontology posits that, in the *Categories*, Aristotle gives us four main ontological entities in terms of being *said of* a subject and *being in* a subject. Namely: (1) something which is neither said of a subject nor something which exists in a subject, i.e. a primary substance (*Cat.* 2a13); (2) something which is not said of a subject yet which, nevertheless, exists in a subject (e.g. the individual knowledge of grammar) (*Cat.* 1a20); (3) something which is said of a subject, but does not exist in that subject, i.e. species/genera or secondary substances (*Cat.* 1b4); and (4) something which is both said of a subject and which exists in a subject (e.g. knowledge) (*Cat.* 1a21). Lowe calls entities of the second kind *modes*, and entities of the fourth kind *attributes*. Moreover, according to his theory, (1) and (2) are particulars, and (3) and (4) are universals. Generally, this theory suggests that attributes and modes are **characterising entities**, whereas primary and secondary substances are entities which can be **characterised**. On the other hand, universal entities (secondary substances and attributes) are **instantiable**, while primary substances and modes are **instantiating entities**. These four main entities and the ontological

¹³ Martin (1980), Paul (2014).

¹⁴ Armstrong (2014).

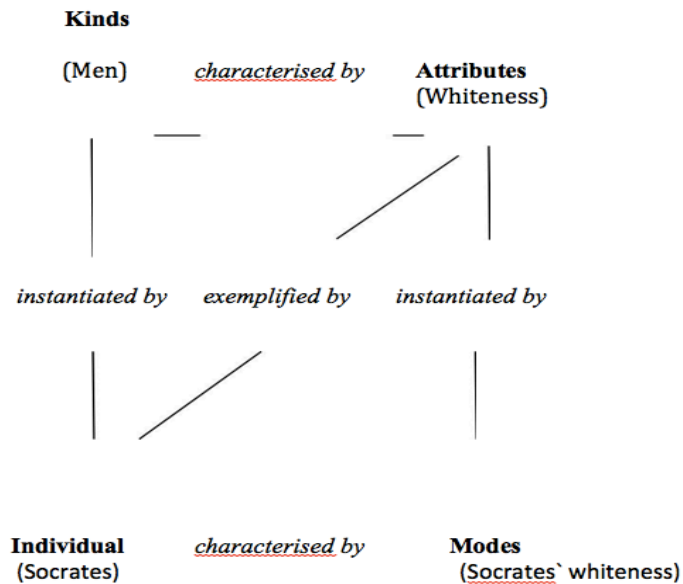


Table 1. Ontological Square ¹⁵

In chapter five, specifically, I discuss the universality requirements for the problem of substance in both Aristotle's ontology and Lowe's ontology. Universals are the object of knowledge and definition for the former, and they are the object of laws of nature for the latter. Furthermore, in terms of the universality of substances, one of the main characteristics of kinds in the Four-Category Ontology is that all kinds possess or are characterised by one or more properties. It is a main claim that the laws of nature involve universal entities rather than particulars, and Lowe (2006, p.144) says that "some more complex cases involve two or more kinds standing in a relation, as with the law that water dissolves common salt or the law that positive and negative charges attract one another." Moreover, Lowe suggests that natural laws are facts about the nature of natural kinds of things or stuff, and define what a natural kind is, and what we should understand by the nature of such kinds. It is obvious that what we must be talking about here are items which belong to the category of universals rather than particulars.

¹⁵ Lowe (2006), pp. 18-40.

The question which arises at this point is: how could Lowe's description of the laws of nature be related to the main problem of this project? I discuss the approach to the laws of nature using Aristotelian epistemology in the fifth chapter. As mentioned, Aristotle says that knowledge and definition is of universals. It could be interpreted that, firstly, universals have priority over particulars, epistemologically, and, secondly, if knowledge and definition is of universals, how could it be possible to know a particular? According to Lowe, particular objects possess their various natural 'powers' by virtue of belonging to substantial kinds which are subject to appropriate laws. Briefly, it can be argued that the relation between substantial universals and their properties is the main factor for the laws of nature, and the relation between an object and its kinds is another factor for the knowledge of particular entities. The main purpose of this chapter is to analyse one of the main premises of *Zeta* (knowledge and definition is of forms) according to the notion of laws of nature in the Four-Category Ontology.

In the last chapter, the problem of *individuation* in Aristotelian and Loweian ontology is analysed, in terms of the *particularity* requirements for the primary question. In this chapter, I consider exactly what makes a composite thing a single particular rather than a plurality and also explore what identifies a particular as a specific particular, numerically distinct from all other particulars. Furthermore, in this chapter I consider the relationship between particulars, and various attributes and properties (i.e. the role of attributes and modes in individuating a particular). Regarding substance, Lowe asks what individuates a particular substance, what makes it one particular substance of a certain kind and the very particular substance that it is? For example, a particular substance, such as Dobbin, a particular horse: what confers its 'individuality' upon it? What makes Dobbin one thing, distinct and differentiable from all other particular things? What is it that provides Dobbin with his identity conditions? I discuss the problem of individuation by taking into account three alternatives, namely, material, formal and sortal individuation.

The main argument of this project is that one of the Aristotelian problems, whether substances are universal or particular, is solved by reconsidering the ontological relation between universal and particular. Having explored various ways to argue that substances are both universal and particular. The main conclusion is that there is a mutual-dependency between universal and particular entities. Particular entities are instances of kinds, and kinds which are universals are instantiated by their instances — particulars. When this ontological relation is taken into account, the primary question

is answered. Particular entities themselves or their own particular forms are the objects of particularity, so, particular form is peculiar to each particular being. Kinds are universal entities and are also substantial, since they answer the question characteristic of substancehood, namely, what is a particular entity. So, a particular entity is an instance of a substantial kind, and all kinds are instantiated.

Chapter 1- Formulation of The Problem

There has been a key contemporary disagreement about Aristotle's substance theory. This disagreement has mainly focused on the problem of *whether Aristotelian forms are particular or universal*. According to the majority of the criteria which are stipulated by Aristotle in *Metaphysics Zeta*, forms are substances.¹⁶ Aristotle also explicitly outlines in *Zeta*, and especially chapters 13 and 16, that no universal can be a substance.¹⁷ In terms of the conclusion Chapter 13 of *Zeta*, as well as some other criteria, if substance is form, then it should be particular. However, Aristotle says that knowledge and definition is of universals, since universals are knowable, particulars cannot be known.¹⁸ It seems that, if substances are particulars on the one hand, it is hard to see how they can be knowable. On the other hand, if they are universal, it is hard to say whether particular forms are substances.

Since Aristotle never mentioned whether forms are both universal and particular, this causes difficulties. In order to examine this problem in more depth, I analyse not only some textual evidence which is often used to justify the view that forms are universal, but also some textual evidence which is used to justify the view that forms are particular. In so doing, I also identify a possible approaching regarding the problem of the status of forms in Aristotle's substance theory. I argue that the main problem in Aristotelian substance theory is solved by focusing on the ontological relation between universals and particulars. It is claimed that the ontological relation between universal and particular entities is symmetrical, rather than asymmetrical. What this means is that both universal entities and particular entities are dependent on each other *mutually*,

¹⁶ "By form I mean the essence of each thing and its primary substance" (*Met.*1032b1-2). "Therefore, what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing" (*Met.*1041b7).

¹⁷ "For it seems impossible that any universal term should be the name of a substance (*Met.*1038b8-9). Nothing that is common is substance; for substance does not belongs to anything but to itself and to what has it, of which it is the substance" (*Met.*1040b25).

¹⁸ "What sorts of parts belong to the form and what sort not to the form, but to the concrete thing. Yet if this is not plain it is not possible to define anything; for definition is of the universal and of the form" (*Met.*1036a26). In addition, Aristotle denies the definability of particulars in Z15 (*Met.*1039b27).

and this is the reason why it is claimed that Aristotelian substances or forms are both universal and particular.¹⁹

In both his earlier work, the *Categories*, and in the central books of the *Metaphysics*, Aristotle claims that what ontologically basic is/(are) the individual(s). Individuals (*kat'hekaston*) or what ontologically basic signify particulars (e.g. "this individual man" (i.e. Socrates) or "this horse") in the *Categories* and the forms (*eidos*) of these particulars in *Metaphysics Zeta*.²⁰ Primarily, though, he states that which is universal (*katholou*) is the most intelligible. It is obvious that there is a discrepancy in his theory—between what the most real (particular) and what the most knowable (universal) is. However, Aristotle *equates* what the most real things with what the most knowable.²¹ This equation causes a problem. The problem is that Aristotle seems to be committed both (1) the claim that which is the most real, that which exists fully, and that which is not universal, but particular (substance), and (2) the claim that the object of knowledge is that which primarily is/exists. As a conclusion, he should have claimed that the object of knowledge signifies what particulars are, and, hence, which primarily exist. What he argues, however, is that knowledge pertains to the universal and that no particular thing is an object of knowledge.

According to Aristotle, the particular coincides with the real, or what is ontologically basic (i.e. a substantial being), whereas the universal (such as secondary substances-man or animal- in case of

¹⁹ In the *Categories*, Aristotle writes that all entities depend on primary substances (*Cat.* 2a34). However, according to the essential interpretation of the *Categories*, it is claimed that, primary substances (particulars) depend on their species, or secondary substances, as well. *Mutual-dependency* is a concept for mentioning this ontological dependency between universal and particular entities.

²⁰ "If the primary substances did not exist it would be impossible for any of the other things to exist" (*Cat.* 2b7). What Aristotle means with any other things is non-substantial categories, while what primarily basic is primary substance. Moreover, it is useful to mention that Aristotelian notion of individual substance, or individual entity, used with the term of particular. This is why I use in this project both of these terms synonymously.

²¹ In the *Posterior Analytics*, Aristotle distinguishes between things that are familiar and prior to us and things that are familiar and prior by nature. Those things that are familiar and prior for us are the objects of perception. "Those things that are familiar and prior by nature are the universals, which are the most knowable things" (*Post.A.* 72a1-5). Moreover, in the same book, he declares that this differentiation signifies particulars and universals respectively. He writes that "I call prior and more familiar in relation to us what is nearer to perception, prior and more familiar simpliciter what is further away. What is most universal is further away, and the particulars are nearest, and these are opposite to each other" (*Post. A.* 70b34). Aristotle defines universals as the most knowable things. In addition, as aforementioned, Aristotle claims that the most real things are primary substances or first principles. However, in the first book of the *Metaphysics*, Aristotle explicitly equates the most knowable and principles (or the most real, as he identified), and says that "someone chooses to know for the sake of knowing will choose most readily that which is most truly knowledge of that which is most knowable, and the first principles and the causes are most knowable" (*Met.* 982a29).

the *Categories*) is not that kind of entity and is less real than particulars. This feature of particulars makes them prior ontologically. In Aristotle's system, however, the universal has priority epistemologically. In spite of this, Aristotle mainly claims in the first chapter of *Zeta* that substances have priority over non-substances, not only ontologically, but also by definition and in terms of knowledge (Leszl, 1972, p. 283).²²

In the *Categories*, Aristotle explicitly writes that “if the primary substances did not exist, it would be impossible for any of the other things to exist”. This means that he insists that it is impossible for universals to exist without primary substances. In other words, universal entities lack the capacity for independent existence with respect to particulars. In case of this analysis of the entities in the *Categories*, Sykes (1975, p.321) lists three premises regarding the ontological status of universals and particulars and supportive arguments for the *particularity* of forms as follows:

- 1- The universal is less of a substance and is less real than the particular sensible thing.
- 2- The form of a particular sensible thing is more of a substance and is more real than the particular sensible thing.
- 3- The universal is not the form of a particular sensible thing.

The first premise seems to be implied in the *Categories*, because what Aristotle claims is that universals such as man are substances only in a secondary sense. Moreover, the argument of Z13, which is that no universal can be a substance, corresponds to the idea that a universal is a substance to a lesser degree than the particular. Aristotle writes in *De Anima* (402b7-8) that a “universal animal is either nothing or posterior”.

I argue that we need to reconsider the dualism between particulars (what the most real things are) and universals (what the most knowable things).²³ For this purpose, in the first chapter, I analyse

²² “Now there are several senses in which a thing is said to be primary, but substance is primary in every sense—in formula, in order of knowledge, and in time” (*Met.*1028a32). Aristotle says that “when someone knows something most fully, they know what it is, such as what man is or what fire is, rather than knowing its quality or quantity” (*Met.* 1028b2).

²³ In terms of the formulation of the *aporia*, Aristotle assumes that the principles of things must be either particular or universal. This is so because the *aporia* is a dilemma: on the one hand, it assumes that principles are universals, since universal entities are the most knowable entities; on the other it assumes that they are particulars. According to this division, it is traditionally interpreted that there are some principles which the objects of *beings* are, and some others

the source of this problem by looking at *Metaphysics Beta* in order to understand the conceptual grounds for this problem. Secondly, I analyse what Aristotle states about the relationship which exists between universals and particulars in *the Categories* and *De Interpretatione*. Thirdly, the role of forms should be underlined in terms of the status of their particularity and universality in *Metaphysics Zeta*, and lastly, I claim that this dualism is not as strong as we tend to think and that the ontological dependency between particulars and universals is both mutual and necessary.

1.1 *Metaphysics Beta*: The *Aporia* - Whether Principles are Universal or Particular?

Metaphysics Beta plays a key role in understanding the whole of *Metaphysics* since Aristotle outlines the problems that should be solved in *Metaphysics* in that book. In addition, the problems given in that book provide us with some directions for grasping *Metaphysics* as the science of being *qua* being (being insofar as it is being). Moreover, these problems help readers and investigators reach conclusions in *metaphysical inquiry*. These problems also prepare the reader for the kinds of problem which they will encounter during the investigation of being.

Indeed, Aristotle outlines these problems by asking questions which we will need to find some proper answers for during the reading of the *Metaphysics*. “An *aporia*, in the sense of a particular puzzle and problem, takes the form of a question, but not every question is an *aporia*” (Politis, 2004, p. 70). In other words, all questions in *metaphysical inquiry* cannot be *aporia*; rather, they should be dilemmatic. For example, rather than asking how many principles there are, he asks whether there is only just one principle that we can investigate, or whether there are more than one. In addition, Aristotle argues that the recognition of particular *aporia*, not only contributes to our ability to search in metaphysics, it is precisely what enable us to search in metaphysics (Politis, 2004, p.73).

which the objects of *knowledge* are. In the Aristotelian account, the former corresponds to particulars, and the latter to universals. Hence, it seems that there is a sharp contrast between universals (as the most knowable entities) and particulars (as the most real entities).

One of the problems listed in *Metaphysics Beta* has a key role in understanding Aristotle's substance theory: namely, whether principles are universal or particular.²⁴ In *Beta* 6, Aristotle seems to pose the problem with this *aporia*. On the one hand, principles are universal because of their being intelligible. On the other hand, though, Aristotle says that what is most knowable is that which is most real, adding that that which is most real are particulars. According to this book, then, it seems that Aristotle argues that the primary object of knowledge must be what primarily is/exists. As we can see in the following passage, Aristotle announces the problem in *Beta*:

“We must ask whether they (principles) are universal or what we call individuals. [A] If they are universal they will not be substance, for everything that is common indicates not a this but a such, but substance is a this...And if we can actually posit the common predicate as a single this, Socrates will be several animals; himself, and, animal. If each of these indicates a this and a single thing. [B] If they are not universals but of the nature of individuals, they will not be knowable; for the knowledge of the principles there must be other principles prior to them, which are universally predicated of them” (*Met.* 1003a7-1003a21).²⁵

In addition to this passage, Aristotle also discusses the same problem in the same chapter, and he claims that there is nothing apart from individuals, and individuals are infinite in number, and so, he asks how can it be possible to gain knowledge about (infinite) individuals? (*Met.* 999a26). However, he outlines that all things that we know have some unity and identity, and insofar as some attributes belong to them universally (*Met.* 999a28). He also insists that if we reject the fact that there is nothing apart from individuals, then there will be no object of thought (*Met.* 999a32). It will become clearer, and I address some links between the main statements in *Beta* in terms of the distinction between particulars and universals, and what Aristotle claims in his central chapter of the *Metaphysics* (*Zeta*) in terms of forms and universality.

²⁴ In book *Zeta*, Aristotle gives us some possible answers to the question of "what entities may be the substance of things?" In addition, in the final chapter of *Zeta*-17-, Aristotle proposes a new point of departure in his efforts to say what sorts of a thing substance is. The new and final claim in *Zeta* is that a substance is a 'principle and a cause' -*archê kai aitia*- (*Met.* 1041a9). Since Aristotle has some different conceptual backgrounds with which to describe substance (form, essence, cause, and principles), sometimes what he means when he uses one of them may become ambiguous. Because of the ideas in *Zeta* 17, it may be said that what Aristotle means by "principles" in *Beta* is "substances" or "forms." In short, Aristotle uses causes and principles more broadly than our modern conception of the terms. For Aristotle, cause or principle is an explanation and origin of things.

²⁵ Lettering by myself

Aristotle claims that: **(C)** no universal can be substance (*Met.* 1038b8-9), since substance is this-something (*tode ti*), and universal (*toionde*) is a such but not a this), and, **(D)** forms are substances (*Met.* 1032b1-2) (in terms of the main conclusion of *Zeta*); hence, **(E)** forms are particular. Nevertheless, we will encounter another difficulty with this result in that Aristotle claims that **(F)** definitions and knowledge are of universal(s) and form(s) (*Met.* 1036a26). In other words, if substances are particular forms, we cannot define them. In terms of these premises, I have three possibilities:

- 1- According to **(F)**: although Aristotle claims that there is no universal substance which exists apart from particulars, species-forms (such as man) can be substance for the purpose of reaching their ultimate formulation and knowledge. This, in turn, means that form is universal;
- 2- According to **(C)**: each compound, or each particular entity, has its own form. This signifies that form is particular;
- 3- Alternatively, it may be suggested that forms are -in some way- both universal and particular.

We have two main conclusions about the passage from *Beta* (*Met.* 1003a7-1003a21). According to premise **(A)**, universals are not substances. This, consequently, supports premise **(C)**. According to premise **(B)** particulars are not knowable. This, in turn, supports premise **(F)**. According to my approach, which I refer to as advance the principle of mutual-dependency ²⁶, one might reach a possible solution to these problems. It suggests that, although principles of knowledge and principles of being traditionally tend to be distinguished from one another, Aristotle does not draw a sharp contrast between the two of them. Analysing his substance theory through these lenses may provide a possible argument both to the problem of the particularity of forms and to the

²⁶ It is argued that the relationship between the concrete particulars and its species (or between the particular form of the concrete particular and its species) is not correctly thought of as a relationship between two quite separable things. Their relationship can be thought of as that of mutual ontological dependence. Particulars cannot exist without being particulars of a certain sort, and universals cannot exist without being instantiated. However, Aristotle is not willing to give an ontological status to universals, but he gives universals an epistemological role and a lower ontological role, which means, universals cannot exist independently from particulars. He would like to allow there to be knowledge of universals, which is potentially knowledge of particulars.

problem of universals. It seems this is possible by focusing on the ontological relationship between particulars and knowledge and substance-hood and universality.

1.2. *De Interpretatione* and *The Categories*

In *De Interpretatione*, Aristotle identifies what particulars and universals are:

“I call universal that which is by its nature predicated of a number of things, and particular that which is not; man for instance is a universal, Callias particular” (*De. In.* 17a36).

The first question that should be asked is what does it mean to say that a universal is, by nature, predicated of *many* things? There are two possible interpretations. Aristotle’s assertion that universals are by nature predicated of many things might mean that for something to be a universal (i) it must be *actually* predicated of many things, or (ii) it must be such that it *can* be predicated of many things (Rinn, 2011, 299). According to the former, the existence of a universal requires the existence of more than one particular (i.e. if only one horse existed, there would be no horse-*qua*-species which could predicate others).²⁷ According to the latter, universals need not be predicated of some instances to exist. However, this interpretation allows that Aristotle gives the role of independent existence for universals.

Secondly, this passage describes that universals and particulars are two *kinds* of thing, or entities, and it implies that *there are* universals, but this definition does not say something about the ontological status of universals more. In the *Categories*, Aristotle argues that secondary substances, i.e. things said of a subject, depend on particulars as basic subjects for their existence (*Cat.* 2a34–b6), then it follows that secondary substances *correspond to* universals, and they cannot exist independently of the particulars of which they are predicated. It seems with this passage that the former interpretation may be what Aristotle means, since in the *Categories*, where

²⁷ This view comes from Alexander of Aphrodisias. He insists that the form is prior to the universal. Therefore, the universal is either nothing or posterior given that the universal is accidental to the nature of a given thing. In other words, even if only one animal nature existed, the animal as genus would not (Rinn, 2011, p. 302).

he asserts that “if the primary substances [particulars] did not exist it would be impossible for any of the other things to exist” (*Cat.* 2b5–6). Aristotle is making a strong claim, viz. the existence of everything other than particular substances would be *impossible* were there no particular substances. It follows that universals, or secondary substances in the *Categories*, cannot exist unless primary substances exist.²⁸

Thirdly, Aristotle, however, does not use the terms ‘universals’ and ‘particulars’ in the *Categories*, but he uses two phrases, namely; being *said of* a subject and being *present in* a subject.²⁹ Aristotle use these phrases to separate primary substances from secondary substances (universals, e.g. species), and accidental properties (non-substantial categories, e.g. qualities), respectively. Accidental properties are always *present in* a subject. However, primary substances are neither *said of a subject* nor *being in a subject*. It seems that these definitions signify the definitions of universals and particulars in *De Interpretatione*; since universals are predicated of many things by nature, and particulars cannot.

As a result, Aristotle claims that the existence of everything other than primary substances would be impossible were there no primary substances (*Cat.* 2b7). This conclusion shows that universals are ontologically dependent on particulars and that they cannot exist without particulars. Although Aristotle does not mention explicitly that primary substances depend on secondary substances, as well, he identifies primary substances as ‘something’, in other words, all primary substances are instances of secondary substances. It is argued that, in the *Categories*, Aristotle rejects the view of bare particulars, and he claims that at least to *identify* a primary substance depends on the identification of its certain species.³⁰

²⁸ Aristotle writes that “for example, animal is predicated of man, and therefore also the individual man, for were it predicated of none of the individual man, it would not be predicated of man at all” (*Cat.* 2a34). He concludes that if primary substance did not exist it would be impossible for any of the other things to exist. This conclusion addresses the view that primary substances are somehow basic entities, secondary substances, or I call, substantial universals are *only* kinds of primary substances.

²⁹ These ontological relations which mentioned in the *Categories* is analysed at the second chapter, since they are important to see how universals and particulars related each other and how these relations important for the main problem.

³⁰ “Primary substances admit the definition of the species and of the genera” (*Cat.* 3b6).

Thus far, the textual background is outlined for one of the main problems in Aristotle's substance theory. For this reason, firstly how Aristotle sets the problem up in *Metaphysics Beta*, and how he identifies particulars and universals in the *Categories* and the *De Interpretatione* was examined. *De Interpretatione* is important in order to grasp how Aristotle describes them, and *Categories* is important in order to see the background of Aristotle's substance theory. It is said that *Metaphysics Zeta* is the main chapter to solve the *aporia* of whether principles are the particulars or universals, and by analysing these passages, we have three main possible premises which are outlined in *Zeta* by Aristotle, in terms of the status of forms.

Three possible conclusions regarding the status of form in *Metaphysics Zeta* is discussed by analysing some textual evidence. Firstly, it may be suggested that forms are universal; secondly, they are particular; and finally, what Aristotle might have in mind is that forms are both universal and particular. They are universal as being the most knowable entities, and they are particular as primary beings. Generally, it is said that Aristotle's forms are universal if they are regarded as somehow sharable and repeatable entities, whereas they are particular if they are not sharable and repeatable, but rather peculiar to particular entities. Supporters of the universality of forms and particularity of forms accept that each particular belonging to a natural kind has a form distinct from the form of another particular of the same kind. However, they disagree on what makes such a form particular, and they claim that it is not the form but the matter.³¹ "If it is claimed that form is particular, they could be joined independently by this or that piece of matter, since they are unrepeatable entities" (Galluzzo, 2007, p.425). It is the main claim of this paper that the problem over whether Aristotelian forms are universal or particular is solved by analysing the ontological relation between universals and particulars, and it is claimed that this relation is identified as interdependency, or as I argue and prefer, mutually-dependency.

It should be noted that the main argument of the project is that Aristotelian substances are both universal and particular. However, I disagree with the view that universality and particularity are characteristics of substances. I claim that substances are both universal and particular, since the ontological relation, and their mutual dependency, between universal and particular entities makes them substantial. According to my interpretation, universals and particulars are mutually-

³¹ The problem of individuation will be discussed In Chapter 6.

dependent entities. It is no more ontologically possible for particulars to exist without universals than it is for universals to exist without particulars. Cohen (2009, p.199) writes about mutual-dependency as follows: “Once again, one might wonder whether there is a mutual ontological dependence here, this time between primary and secondary substances. For although Aristotle never makes this claim in the *Categories*, it would seem that a given primary substance depends for its existence on its belonging to the particular species it belongs to.”

Before discussing what kind of relation these entities have, and how this dependency makes them substantial, I mention the cause of the problem by outlining Aristotelian textual evidence in his *Metaphysics*. Firstly, some evidence will be shown of the universality of forms, and then their particularity will be discussed. At the end of first chapter, it could be useful to mention the views which have claimed that forms are both universal and particular.

1.3. The Status of *Form* in *Metaphysics Zeta*

1.3.1. Forms are Universal

Although Aristotle never, *explicitly*, claims that forms are universal, there are some reasons to think that he holds this view. The main reason for this view is that forms are able to satisfy Aristotle’s demand of knowledge and definition. He says that forms are knowable and definable (*Met.* 1036a26) and claims that knowledge and definition are universal.³² This follows the view that forms are universal. Moreover, in Z15, Aristotle explicitly denies the definability of perishable things (*Met.* 1039b27). This claim means that there is no scientific knowledge and demonstrations of perishable things because they have matter and destructible things cannot have a definition. The problem can be shown with the following premises: that (1) particulars are indefinable (because of their matter)³³ ; (2) definitions are not of concrete particular things but of their forms; (3) form

³² “There is nothing apart from individual things, and the individuals are infinite in number, how is it possible to get knowledge of the infinite individuals? For all things that we know in so far as they have some unity and identity, and in so far as some attribute belongs to them universally” (*Met.* 999a25-28)

³³ In Beta, Aristotle says that if the principles are particulars, since knowledge is universal, then the principles will not be knowable. If principles are to be knowable, but particulars, then, there must be universal principles which are knowable and prior to the particular principles. And the principles, which Aristotle has in mind, are substantial forms. Furthermore, Aristotle explicitly states that perishability is the reason for why sensible particulars cannot be the object of knowledge. Does it make particular forms/or principles unknowable as well? Heinemann (1981, p.77) says that “if

is the object of knowledge; (4) nevertheless, we cannot say that forms are particulars because of premise (1); thus, it seems that forms are universal. One may reach this conclusion in terms of features of knowable and definable things. Moreover, any other textual evidence may be shown to reach the view that forms are universal.

According to the statements, mentioned above, there are two main Aristotelian doctrines that require the universality of substantial forms. One is the *definability* of substance, and the other is the *knowability* of substances. The main reason for this requirement is what Aristotle, explicitly, says in the *Metaphysics*: the essence, the formula of which is a definition, is also called the substance of each thing (*Met.* 1017b21). According to Scaltsas (2010, p.91), the statements on definition and knowledge and some other claims about the indefinability of material and immaterial particulars address the result that substantial forms, which are definable in the primary sense, are universals.³⁴

First of all, an entity is identified as particular, if it is not predicated of, or does not belong to, or is not common to, several things. If it is said that this house or this human being (e.g. Socrates) has a particular form, that means that their forms are not common to, and are different from the others (e.g. this house's form is different from that house or Callias's form is different from Socrates). However, Aristotle explicitly states that some particulars share the same form. In *Met.* 1034a5, he says that "Socrates and Callias are different in virtue of their matter, but the same in form". This statement will be clearer in this chapter, but it seems that Aristotle has some arguments that particulars have common or the same essential properties.

Secondly, Aristotle declares that "substance belongs to nothing which is not a species of a genus" (*Met.* 1030a11). This means that substance only belongs to species.³⁵ The species (such as man) has some members and is predicated of them (e.g. Socrates and Callias are men). According to the

perishability is a sufficient reason for concluding that perceptible substances are not objects of knowledge it would also appear to be a sufficient reason for concluding that their particular forms cannot be objects of knowledge as well."

³⁴ "Scientific understanding which requires systematic classification of the causes of things, the objects of knowledge will be universals and relations between universals, but the concrete particular objects will be the object of perceptual acquaintance and opinion." (*Met.* 1039b32).

³⁵ "The species is substance because only what is one can have essence and only species or substances is one because it has no parts and because the formula of what has no parts contains no addition. This species is one through its formula, it is indivisible in formula" (*Met.* 1016a32-b6)

description of a universal, a universal is predicated of many things. Therefore, if it is said that a species is predicated of many things or that it has more than one instance, it seems that substance is universal. Socrates and Callias, in this case, share the same essence, that is, they are both men. In other words, Socrates and Callias are not one in *number*, but they are one in *species*. This statement suggests that Aristotle claims there is such a thing (species) that is common to many and that essence belongs only to them. However, it is obvious that this conclusion is wrong in terms of the statement that (C) no universal may be substance.

Thirdly, another important proof of the claim that forms are universal is that Aristotle does not mention anything about *individuation*.³⁶ This means that there are no such criteria for separating a particular entity from other particulars besides their matter. He explicitly says that “Callias and Socrates are different in virtue of their matter but the same with regards to their form” (*Met.* 1034a5). Obviously, some interpreters who are proponents of particular forms expect Socrates and Callias to differ in terms of their form. There is only one explicit factor which distinguishes particulars from one another, and that is their matter. If matter were the only factor for differentiating one thing from another belonging to the same species, all particulars which share the same form should be considered universals — just as Aristotle mentioned in the case of Socrates-Callias.

Next, In Z7, however, when Aristotle claims that forms cannot be generated, he means that form exists before generation based on the fact that it exists in the agent that generates the particular - e.g. for man begets man- (*Met.* 1032a26). Any two instances of man are the same, not in *number*, but in *species*. It seems that if my form were unique, I could not have been given that form by my father.³⁷ It is, therefore, hard to say whether forms are particular in virtue of his generation argument. In order to contend with this problem, either form would have to be generated along with the composite or Aristotle would need to abandon his naturalistic account of generation (Halper, 1987, p. 668). This passage also may be shown as an evidence for universality of form.

³⁶ The principle of individuation is discussed in Chapter 6 in connection with the main problem.

³⁷ “Natural comings to be are the comings to be of those things which come to be by nature; and that out of which they come to be is what we call matter. And that by which they come to be is something which exists naturally; and the something which they come to be is a man or a plant or one of the things of this kind, which we say are substances, if anything is” (*Met.* 1032a16-22)

Finally, some passages in Z10 and Z11 are also quite important, especially for the relationship between definitions and universals. In these chapters, Aristotle mainly discusses definitions, but also poses a critical question as well; namely, if a definition is a formula and if all formula share some parts, should the formula of the parts be present in the formula of the whole or not (*Met.* 1034b20)? In other words, what is, or what kinds of thing, are the definition of something: its matter, its form, or the compound of both form and matter? Aristotle says that the form is part of the formula because the formula, or definition, corresponds to the form and universal. Matter can only be part of the compound, but its definition does not contain matter.³⁸ For example, the bronze is a part of a particular statue, but not of the statue's form (*Met.* 1034b40). A definition is of the universal and of the form and, according to Z10 and Z11, the parts of a definition will correspond to the parts of the form³⁹. These two chapters are the most difficult chapters of *Zeta*. As far as I can interpret it, however, if a definition signifies both the universal and the form, it may be claimed that the form is universal rather than particular.

It should be noted that, according to Modrak (1979), the main question of whether Aristotelian forms are universal or particular has been discussed with the interpretation of the notions in his ontology. For example, he claims that “many interpretations based on the idea of the **interrelatedness** of form, substance, essence, and definition, and the ambiguity of the problem, have arisen for the same reason” (Modrak, 1979, p.371). In case of this ambiguity, Aristotle says that a thing's substance or form is identical to its essence (Z6), and identifies what essence is as the formula of its definition. Additionally, he explicitly claims that the definition is of universal. So, the result of these two sides of the argument, naturally, is that forms are universal, since the definition of them signifies that their essences are identical to their form.

Modrak (1979) has a formulation for the main problem. He claims that there are two kinds of universals, namely *properties* and *substance types* (or substantial universals). What Aristotle

³⁸ Aristotle will claim in Z15 that material things cannot be known or definable because of their destructibility. For the same reason, matter cannot be part of the definition.

³⁹ “The question is naturally raised, what sorts of parts belong to the form and what sort[s] not to the form, but to the concrete thing. Yet if this is not plain it is not possible to define anything; for definition is of the universal and of the form” (*Met.*1036a27-8).

means, in Z13, by the claim that no universal can be a substance is that **no property-universals can be a substance**, but this does not change the substance-hood of substantial kinds (e.g. species, or genus). He supported this idea with the distinction between primary and secondary substances. For him, although the conception of primary and secondary substances is not found in the *Metaphysics*, Aristotle holds the idea that a species of composite particulars is form (Modrak, 1979, p.372). According to this method of Aristotle, Modrak claims that it should be accepted what no universal is a substance means, indeed, is that no property-universal is a substance.

I disagree with this idea, since Aristotle describes in the *Categories* something which is *said of* a subject for both secondary substances and properties. The examples he uses for this issue can show this explicitly, e.g. man-animal. This means that the relation of *said of* is not used by Aristotle in the narrower sense, but it obviously includes both properties [they are both said of a subject and in a subject (*Cat.* 1b), e.g. redness] and secondary substances. What I mean by this is that, when Aristotle claims that no universal can be a substance, he does not mention, explicitly or implicitly, whether these kinds of universals are *essential* (e.g. species, genus) or *accidental* (e.g. qualities, quantities).

In general, it should be outlined that supporters of the universal forms do not suppose to say that *separated* or *uninstantiated* forms exist. Supporters of universal forms claim that for each species, e.g. man, there is only one substantial form, and this substantial form is individualised by being instantiated in different material subjects. This means that form is universal, and only this universal form (e.g. man) can be replicated in different bits of matter (Galluzzo, 2007, p.471). In this case also, they explicitly specify their opinion on the problem of individuation, and obviously matter provides a positive argument. This is because what makes a sensible object a particular is its matter, rather than its form, which is shared by other particular sensible objects. In other words, in spite of all this evidence, Aristotle does not hold that there are some universal forms which have independent existence apart from the material substances of which they are forms. In other words, Aristotle completely rejects the independent existence of forms or the "Idea" of Platonic ontology (there are Forms, or Ideas, which can exist independently of all individuals or instances of them). Therefore, it may be suggested that Aristotle may allow for some *instantiations* of universal forms (by definition), and these instances are called particular forms.

1.3.2. Forms are Particular

The main conclusion of Z13 is that no universal can be substance. In addition, as it was mentioned before, based on some arguments and textual evidence, forms are also considered by Aristotle as being primary substances. Although there are some supportive arguments which are posited by Aristotle on the particularity of forms, these are not explicit. Besides the textual evidence which support the conclusion that forms are universals, there are some other statements and conclusions in *Zeta* which support the conclusion that forms are particular. Regarding the main conclusion of Z13 and Z16, the main characteristic of substance is its peculiarity (i.e. substance is a “this” not a “such”). He writes that;

“For it seems impossible that any universal term should be the name of a substance. For primary substance is that kind of substance which is peculiar to an individual, which does not belong to anything else; but the universal is common, since that is called universal which naturally belongs to more than one thing. Of which individual then will be the substance? Either of all or of none. But it cannot be substance of all; and if it is to be the substance of one, this one will be the others also; for things whose substance is one and whose essence is one and themselves also one” (*Met.* 1038b8-15).

Firstly, it is explicit that this passage eliminates the substantiality of species and universals. If something belongs to more than one thing (such as man, which describes both Socrates and Callias), one could not both say that that thing is *one* (since it belongs to more than one thing) and that that thing's essence is *one* (since that thing and its essence is same).⁴⁰ If a universal were the substance of these things, they would have one substance and should be one. Thus, no “one,” over many, can be substance. In addition, in terms of his equality of essence claim (this will be clearer in the present chapter), many things cannot share the same essence. Another related argument in the same chapter is that the universal is predicable of some subject, whilst substance means that which is not predicable of a subject (*Met.* 1038b135-16). Moreover, Aristotle does not have a clear definition of universal and particular in *Metaphysics*. What he clearly means is that universals are *predicated of* many things, but a substance cannot be predicated on something. Aristotle uses the same definition of himself which is mentioned in *De Interpretatione*. Universals cannot exist

⁴⁰ “Each thing and its essence are one and the same in no merely accidental way” (*Met.* 1031b20).

separately from particulars, which means there is no such thing as ‘**one**’ over **many**.⁴¹ This supports the idea of ‘being numerically one’ for substances, and Aristotle says that universals cannot be substances, since they lack the numeric unity required of substances. Essence or form are able to be numerically one without contradiction. This assumes that a substance must be one or particular.

Secondly, in *Metaphysics* Z6, Aristotle provides another argument which I call "the equality of essence" claim, which can be seen as a proof for the particularity of forms in one sense.⁴² He writes that;

“We must inquire whether each thing and its essence are the same or different. This is of some use for the inquiry concerning substance; for each thing is thought to be not different from its substance, and the essence is said to be the substance of each thing” (*Met.* 1031a15-18).

This inquiry obviously means that each thing is not distinct from its essence, or in other words, there is nothing as essences or forms apart from particular entities. For instance, Socrates is an instance of mankind, but he does not seem to be the *same* as mankind (if we say that the human-being, taken universally, is the essence of Socrates) (Cohen, 1978, p.75). In addition, in terms of the claim of the equality of essence, Socrates has to be same as what-Socrates-is exactly, and it seems that it is nothing apart from the Socrates himself. However, when one says that the essence of Socrates is *man* (i.e. universal entity), this statement is not referring to the essence of Socrates at all. In this case, Socrates refers to the essence that all men share (Cohen, 1978, p. 82).

For example, if *this* apple is the same as the substance of apple or if Socrates is the same as the substance of Socrates, then it should be mentioned that this apple is one of the instances of fruit and that Socrates is one of the instances of man. In terms of the equality of essence, if something is the same as its essence, it could not be said that the apple is *identical* to “fruit,” nor could we

⁴¹ “The supporters of particular forms claim that particular forms of sensible objects do not owe their particularity to anything but themselves. In this sense, their particularity is basic and primitive” (Galluzzo, 2007, p.472).

⁴² According to Menn (2011, p. 176), Aristotle is neutral on whether the primary entities will be form or composites, particular or universal, in *Zeta*, chapter 6. Frede and Patzig (1988; cited in Menn, 2011, p. 176), however, claim that Aristotle, in saying that the primary substance is its own essence, is saying that primary substances are particular forms.

say that Socrates is *identical* to “man.” It is what it is, and he is what he is. However, Aristotle indicated another argument in the same chapter, he writes that;

“Each thing then and its essence are one and the same in no merely accidental way. To know each thing, at least to know its essence, so that even by the exhibition of instances it becomes clear that both must be one” (*Met.* 1031b20-22).

Aristotle has two different meanings of "being same as with its (the subject's) essence" in the equality of essence claim. He claims that substance is *tode ti*, this means that each thing is thought to be homogenous with its essence. In other words, if it is said that something is equal to its essence, it has to be *one in number*, but according to the passage mentioned above, for one to know something, it is needed to know what it is, or what its essence is. This means that this thing should also be equivalent to its formula or definition. All in all, he equates *particularity* with being one in number, and *universality* with being one in form. (since, as I outlined before, knowledge is of universals and forms and, in this sense, form equates with what essence is).⁴³

Thirdly, Hartman (1976), however, suggests that particular forms meet all criteria for being substance in Aristotle's theory since each material objects has—and is identical to—its own particular form. In *Zeta* 17, Aristotle identifies substance as a principle and cause. He outlines that substances/forms are the reasons why something is itself, for example, why some stones and bricks are a house (*Met.* 141a22). Hartman, also, claims that in this case, Aristotle addresses the particular forms in terms of why the matter is *some* particular thing (*Met.* 141a32), or what makes an particular is a particular. The form is substance, and it is substrate to matter since it persists, and it is the reason for the unity and identity of material things, through the material change.

To make this suggestion clearer, it is useful to look at Hartman's (1976) river case. He claims that we can step into the same river twice, since this is a particular river, and it is not some water, and its form is not a universal. With this example, Hartman means to say that the form of the river is particular, not universal, for the claim is not just that there is some river or other here now, just as there was last week, but rather that *this particular river* is still here. It is here because the essence

⁴³ “Z6's target is the identification of a thing with its own nature, not with the universal form. As we will see, this is required for a substance to be a *kath'hauto* entity, namely, an entity that is what it is in virtue of itself, rather than in virtue of something different from it and related to it” (Scaltsas, 2010, p.132)

that was here last week is here, not because the particular water is still here, or because the fishy smell is still here, for neither is. There is no some river or other (correspond to the universal form) here now this particular river is still here. Does it mean that the water and the river are now non-identical? Aristotle seems to believe that it does, because he holds to a principle of the equality of essence, if two things are truly identical, then they must always be identical (Hartman, p. 1976, p. 550).

Frede and Patzig (1998) claim that Aristotelian forms are particular. In terms of the definability and knowability of substantial forms, their theory seems incompatible, since, as aforementioned, knowledge and definition of universal and substantial forms are the principles of knowledge, hence, a substantial form is universal. These statements cause difficulty for the *knowability* of particular substances, if it is said that they are particular. Frede and Patzig have an approach for this problem: namely, *a nominalist theory* on the knowability of particular substances. They claim that “definition is predicated universally of many particulars, rather than definition is of universal” (Frede, Patzig. 1988, p. 55, cited in Scaltsas, 2010, p. 93). In other words, particulars can be known via universals which are predicated of them, but at this point another question arises: how can we manage to identify particular forms at a given time? Frede (1987b, p.78) writes that:

“They differ from each other by being realized in different matter, and by being the ultimate subject of different properties. A particular form can be identified through time by its continuous history of being realized now in this, and now in that matter, of now being the subject of these and then being the subject of those properties”.⁴⁴

Finally, In Z4, Aristotle says that the essence of each thing is what it is said to be in virtue of itself. “For being you is not being musical ... [who] you are in virtue of yourself is your essence” (*Met.* 1029b13). In terms of the river case, being this river is not being some water or being other rivers. Moreover, being Socrates is not the same as being Callias since the essence of Socrates is what he is said to be in virtue of himself. It is, thus, clear that essence is primarily attached to, for example, a particular person, rather than to its species. It is the general claim of Aristotle on substances that a substance must be *one in number*, and this is the reason that a universal cannot be a substance.

⁴⁴ The view of Frede and Patzig will be discussed in Chapter 6, in connection with the problem of *individuation* of particular entities.

This is because universals have two characteristics: first, they are predicated of many particulars and they are composed of other universals (Halper, 1987, p.670). This means that if an entity can be predicated of more than one object it would not be *one in number*. Aristotle describes what universals and particulars are in *De Interpretatione*, where he writes: “I call universal that which is by its nature predicated of a number of things, and particular that which is not; man for instance is a universal, Callias particular.” (*De. In.* 17a36). Universals are not *one in the pertinent way*, and they do not fit the characteristics of *tode ti*, hence they are not substances.

1.3.3. Forms are Both Universal and Particular

Some textual evidence was outlined that Aristotle has some arguments to support to views that both forms are particular and forms are universal. Therefore, according to some views, it follows that Aristotle has two *characteristics* of form in his substance theory. Although, there are no explicit statements to support the view that forms are both universal and particular, this view may be an alternative suggestion to approach the status of form in Aristotle`s substance theory.

Edward Halper (1987) suggests that form is both universal and particular, but Aristotle uses these terms to refer not to *kinds of entities* but to *characteristics*. Form has both, because it is one in two different ways (one in *number* and *species*), and form can be one in both ways because it is *actuality*.⁴⁵ As aforementioned Aristotle insists that substance should be *tode ti*, this something. It signifies that one of the characteristics is that substance/form is *one in number*. However, in Z4, Aristotle says that only species of a genus have an essence. According to Halper (2006, p.243), Aristotle does not argue that species, in the usual sense, have essence, but that what is *one in*

⁴⁵ Aristotle argues that the priority in substance/form is actuality over potentiality. However, matter exists in a potential state, just because it may come to its form; and when it exists actually, then it is in its form (*Met.* 1050a9–17). In terms of Aristotle`s theory of causality, matter (or material cause) is potentiality, while form (or formal cause) is actuality. For example, wood; the matter of wood has the potential to be many things such as a table or door. In this case the matter is wood, and the table-ness or door-ness is its form. In other words, wood is always potentially a table (among other things) and only becomes a table when it receives the form of table-ness. Moreover, the term of actuality signifies to the function that makes an entity what it is (Halper, 1987, p.671). On the one hand, forms of sensible objects are *numerically* one, because somehow, they are separate from matter. On the other hand, in case of the definition of actuality, they are one in *formula*.

formula/species has an essence. It seems that form can be *one in number* and *one in species*, and it follows that form can be both particular and universal.⁴⁶

Halper (2009) states another alternative, and he claims that the narrow usage of the conceptions of particular and universal should be expanded. What he means is that in the narrower sense, particulars signify concrete particulars and universals signify only predications. However, in the expanded sense, these are not kinds, but *characteristics*. If we accept that these are entities in the Aristotelian sense, it may be possible that something might be both universal and particular. It is clear that something cannot fall under two contrary kinds, but something can have two different characteristics, if these characteristics are ways of being one (Halper, 2009, p.243). In the usual senses of these terms, this claim would be nonsense, but here they refer not to kinds but to two ways of being one, since these ones are not contrary (*Met.* 1016b36).

Moreover, Albritton (1957) is another proponent of the view that forms are both particular and universal. He claims that the particular form of a thing is an instance of its universal form (i.e., the form of its species), and states his idea that a particular concrete thing not only shares with other particulars of its species a universal form, but has a particular form of its own, an instance of that universal form, which is not the form of any other thing. (Albritton, 1957, p. 700). This means that one might say that there are two *characteristics* of form, but that they are not exactly identical and not exactly opposite. Namely, one of them is the form *qua* species — which is the object of knowledge and which is both definable and universal— and the other is the form *qua* essence— which is particular. Furthermore, whereas the former is what the material or sensible substance shares with others of its species (it may be called universal form), the latter signifies what these sensible substances have particularity (i.e. their *own* form) which is not the form of any other thing.

According to Novak (1963), in his article, Aristotelian substances are both universal and particular, but he took on the problem only within the frame of the problem of knowledge, or the knowability of particular instances. This is the reason why he claims that it is useful to grasp the relation

⁴⁶ Halper moves the problem from particularity and universality to being *one in formula* and *one in number*. According to this view, Aristotle equates particular and *one in number* and suggests the parallel equation between *one in formula* and universal (*Met.* 999b33).

between essence and universal and between essence and individual. He writes that:

“Aristotle’s notion of substance is bound up with his notion of knowledge. For Aristotle the essence is what we know when we know things. Because essence is in things, things are knowable; because essence is universal, science is possible...how is essence related to individuals, and how to universal? Apparently, essence stands at the crossroads, it is what constitutes the this or individual, and makes it most real; it is also what makes the individual knowable and capable of science” (Novak, 1963, p.4).

In general, he focuses on the definition of substance in Aristotle’s ontology, and as aforementioned, Aristotle says that substance or essence is the ‘what is it’ of each thing. However, according to Novak(1963), this means that the definition of what the thing is refers not only to a universal definition, but also to a particular instance of that universal entity. For example, “‘being an oak’ has two aspects: that of essence and that of instance; that of universality and that of particularity; that of kind and that of a this” (Novak, 1963, p.7). The argument which is claimed by Novak is based on the problem of the knowability of particular substances. In other words, in his paper, he again rules out the relation between universal and particular entities. What I mean by this is that he only focuses on the problem of knowledge and the role of kinds in grasping their particular instances.

In his work *Substances and Universals in Aristotle’s Metaphysics*, Scaltsas (2010) mainly claims that Aristotelian substances are not only universals, which is to say that they are the objects of knowledge, but substances also are particulars in *actuality*. He suggests that the objects of knowledge can be *abstracted* from particular objects.⁴⁷ This means that it can be said that Socrates and Callias share the same nature and the same substantial form, and this form can be abstracted from both. However, as Aristotle says, substance is identical to its essence, and it is not what can be abstracted from particulars; in other words, it is in actuality not a component of the substance, but rather the essence in actuality which is the substance itself. (Scaltsas, 2010, p.142). He argues his suggestion as follows:

⁴⁷ “Abstraction is a mental act in which we consider a particular substance without some of its components. For example, we can abstract the form of a bronze statue, thereby isolating mentally the form from the matter. It is a mental activity, not a physical act.” (Scaltsas, 2010, p.97).

“On the one hand, when abstracted away from a substance, the substantial form is universal, because it is separated from the elements that particularize it. The abstracted universal form is immaterial, definable, knowable, and common to all the substances of the kind... On the other hand, when the substantial form is in actuality, it is not a distinct component in the substance, for there are no such components. The substantial form in actuality cannot be differentiated from and related to the matter in a substance. The substantial form in actuality is the concrete substance itself, which is particular.” (Scaltsas, 2010, p.193).

According to Scaltsas, there is no ontological relation between universal substantial form and form in actuality, it means a universal form (e.g. human being) is not *ontologically related* to its subject (e.g. Socrates). I disagree with this view, although he writes that *abstraction* is the only thing which separates a universal form from its subject. In his methodology, Aristotelian forms can be both universal and particular (concrete substances). However, in this system, there is no ontological relation between these two kinds of forms, but there is only a way of separation by *abstraction* (Scaltsas, 2010, p.5). On the one hand, it is said that Socrates is identical to the instantiated substantial form, on the other hand it is different from the universal form. It seems true that Socrates cannot be the same as his universal form, but I argue that it is difficult to claim that there is no ontological relation between universal form and particular form (or form in actuality). It seems Scaltsas, as well, ruled out the relation between universals and particulars.

Lastly, Aristotle never gives us an explicit statement regarding the premises behind why form is universal. Nevertheless, especially with regards to the problem of the knowability of first principles, when this premise is outlined, another problem arises. How (if they are not universal) can the first principles be knowable? In the *Metaphysics* and other Aristotelian works, we could not detect any direct statement that form is universal (except for the problem of knowability of principles and definition).

It may be suggested that Aristotle has some important statements on the problem of knowledge in *Posterior Analytics*. In terms of the problem of knowability of particulars⁴⁸, Aristotle distinguishes two kinds of knowledge: namely, *unqualified* and *qualified* knowledge. The former arises from demonstration—a sort of syllogism consisting of premises and a conclusion. *Unqualified* scientific

⁴⁸ Universals as the object of knowledge and definition, and how particular entities are knowable will be discussed in Chapter 5.

knowledge pertains to universals, and *qualified* scientific knowledge pertains to particulars.⁴⁹ In addition, Aristotle says that knowledge of particulars depends on knowledge of universals. In other words, universals can be the subject of unqualified scientific knowledge, but it does not exclude that knowledge of particulars. It shows that universals are potential knowledge of particulars. In the *Posterior Analytics* Aristotle states that there is no knowledge of perishable things without qualification, but only in a qualified sense, since it does not belong universally but only at a time and in a way. Moreover, he outlines this idea in Chapter 10 of *Metaphysics, Book M*, and claims that “all knowledge of the universals is true in one way but not in another” (*Met.* 1087a15). It can be suggested that Socrates is knowable *qua* Socrates only in a way, in a qualified sense.

As has been mentioned before, there are also no explicit statements in Aristotle’s texts that forms are both universal and particular. However, the Aristotelian dualism between universal and particular is not strong and, consequently, that universals and particulars are mutually-dependent entities in Aristotle’s account. In terms of his substance theory, forms are substance and particular in virtue of what Aristotle says substance is. Moreover, given that both knowledge and definitions must be of universals and forms means that, in order to have knowledge of particulars, it is first necessary to know what their species is.

As a conclusion, despite the fact that Aristotle does not outline whether form has two senses or whether two different entities may have form, in Aristotle’s conception, universals and particulars are dependent of each other both ontologically and epistemologically.⁵⁰ This means that, epistemologically, all instances (particulars) may be known *qua* members specimens of their species and that, ontologically, particular forms are substances given that (i) there is no “one over many” apart from particulars and (ii) no universal can be substance.

⁴⁹ Particulars can be interpreted as being able to be known and defined in qualified sense. Unqualified knowledge, on the other hand, includes universals and Aristotle defines universals as being potential knowledge of particulars (*Met.* 1087a34). In order to know or define particulars, they need to be an instance of the universal. In other words, knowledge of particulars requires that they fall under a universal. Moreover, if our scientific knowledge begins with perception, and if universals are potential knowledge of particulars, that means that universals require particulars to be definable and knowable.

⁵⁰ The *aporia* is generated on the assumption that the particular and the universal are two entirely distinct things. Cherniss (1962) identifies the problem in Aristotle’s substance theory as “a discrepancy between the real and the intelligible”. Moreover, Leszl (1972, p.279) summarises this problem as follows: “I propose hereby to contribute to a reconsideration of the grounds for the attribution to Aristotle of the traditional dualism between his ontology and his logic and epistemology.”

So, does this mean that it is possible to reach the conclusion that form is universal only with regards the debate of knowledge and definition? If so, is it enough to reach a definitive conclusion on the problem of particularity and the substantiality of form? Finally, is it enough to allow us to accept the statement that there are two kinds of form (one particular and one universal)? It seems that these are still not clear. I suggest that Lowe's Four-Category Ontology is a possible approaching for these questions. Before discussing Lowe's Four-Category Ontology, what Aristotle argues about the ontological relations between universals and particulars in the *Categories* is analysed. This is useful, because, as aforementioned, the problem of whether Aristotelian substances are universal or particular cannot be solved without considering ontological relations between universals and particulars.

In this chapter, I discussed how Aristotle formulates the problem, and how he identifies universals and particulars as separated entities, especially in *De Interpretatione*. Moreover, in terms of the main problem, I analysed three possibilities on the status of forms at the *Metaphysics Zeta*, with some arguments of Aristotelian scholars. Namely, these possibilities are (1) forms are universal, (2) forms are particular, and (3) forms are both universal and particular. Many scholars rule out one of the main factors of the problem, this is the ontological relations between universal and particular entities. For instance, according to Halper (1987, p.666), universality and particularity are not the kinds of entities, but the characteristics. If it is possible to claim that forms are both universal and particular, it is only because the *actuality* of forms, as mentioned before. I disagree with his view and argue that there are universals and particulars as *entities*, and their ontological relation (e.g. instantiation), and their ontological dependency (what I call, mutual-dependency) are the reason to claim that universals and particulars are substantial, hence, forms are both universal and particular. The main business of the next chapter is to discuss ontological relations in Aristotle's *Categories*.

Chapter 2 – The Problem of Universals and Ontological Relations

Aristotle did not hold an independent theory of universals from his theory of substance, and it is difficult to examine his views on universals in separation from his substance theory. Some textual evidence shows that Aristotle, either explicitly or implicitly, provides some arguments for universals in his works. In general, he makes *negative remarks* about universals; if that is true, they are not substances and cannot exist separately from their instances. In other words, Aristotelian universals exist only *secondarily*. As was indicated, ontological priority belongs to particulars in his ontology. Aristotle discussed the main *aporia* in *Metaphysics Book Lambda* and wrote that “The primary principles of all things are the actual primary ‘this’ and another thing which exists potentially. The universal causes, then, of which we spoke do not exist. For the individual is the source of the individual” (*Met.* 1071a23). It is claimed that Aristotle made a negative remark about universals, since he stated that they can exist only *potentially*. They are not the *causes* or *principles* of particulars.⁵¹ Moreover, it is a neo-Scholastic approach to suggest that Aristotle claims universals have a basis in the mind, that they exist only in or relative to thought, and in *De Anima*, he explicitly writes that, “for example, universal animal is either nothing or *posterior*” (*De. An.* 1.1. 402b7-8). In this example, animal is a genus of particulars, and according to the description in the *Categories*, it is universal. This is the reason why he made a negative remark about universals.

For this reason, firstly, it is useful to analyse some Aristotelian texts in terms of his ideas regarding substances and universals as a parallel to the first chapter, Aristotle’s notion of universal is discussed in terms of his three relevant texts. First of all, *Metaphysics Beta* and the *De Interpretatione* is analyzed. Secondly, I discuss what Aristotle says in the *Categories* about particulars and universals, since he subsumes both entities under the title of substance in this book. The main differentiation between these entities were analysed by Aristotle with two technical terms; namely, *being said of a subject* and *being in a subject*. Also, it is necessary to discuss these

⁵¹ As was previously indicated, Aristotle used some concepts transitively, which means, for example, that he used principles, causes, forms and substances as *homonyms*. This is the reason why Aristotle made negative remarks on universals; they are not substances, they exist only potentially, they are not causes nor are they principles.

technical terms, as ontological relations between particulars and universals, in order to clearly understand what Jonathan Lowe says in his own ontology. Lastly, before discussing and analysing Lowe's Four-Category Ontology, the differences between Nominalist and Realist views is underlined, as well as Aristotle's position regarding this disagreement in order to understand his concept of universals more clearly.

2.1. Universals in *Metaphysics Beta* and *De Interpretatione*

Aristotle presents some *aporias* in *Metaphysics Beta* to discuss the status of universals in his own ontology. The most important *aporia* about the status of universals and his substance theory is the most problematic *aporia*; namely, *whether the principles are universal or particular*. This central *aporia* and others are important for grasping Aristotle's theory of universals. As I indicated in the previous chapter, the formulation of this *aporia* holds that particulars and universals are *separate*. Moreover, it is obvious that the determination of the status of Aristotelian substances or forms should be discussed with the problem and status of universals. Although the *aporia* forces the conclusion that principles or substances are *either* universal *or* particular, as was mentioned in previous chapters, the tension between what the most real (particulars) and the most knowable (universals) is *avoidable*, and it is possible to claim that substances are both universals and particulars. At this point, it is useful to discuss other *aporias* in *Beta*, which are related to the main *aporia*, whether principles are universal or particular.

First of all, one of the *aporias* in *Beta*, which relates to the problem of universals and his substance theory, asks "if nothing exists alongside particulars, and if particulars are infinite, how is it possible to obtain knowledge of things which are infinite" (*Met.* 999a25). According to this *aporia*, Aristotle gives an *epistemological priority* to universals, since the main claim is that "if nothing exists alongside particulars, nothing intelligible would exist" (*Met.* 999b1); namely, it may be said that there are some things which go alongside particulars called universals and that they are intelligible. However, it is accepted that this *aporia* is also important because it may be argued that Aristotle accepts universals, ontologically. Therefore, the question becomes: do general kinds exist? The answer, subsequently, is that there must be some general kinds if things are to be intelligible.

Another important *aporia* on universals is whether principles are *one in kind* or *one in number* (*Met.* 999b25). On the one hand, it is said that there are as many principles as there are particulars. For instance, Socrates and Callias have different principles, even though they both belong to the same kind. On the other hand, there are as many principles as there are kinds. Socrates and Callias have the same principles, since they both belong to the same kind. Therefore, it is obvious that this *aporia* is related to our central problem. In this case, Aristotle uses different phrases, namely, *one in number* and *one in species*. As was indicated earlier, *one in number* signifies the particular and *one in species* signifies kind. As Halper (1987) and Scaltsas (2010) claimed, in Aristotle's ontology, *one in species* signifies universals as well, since universals cannot be *one in number*.⁵² Moreover, it should be noted that Aristotle rejects the view that kinds, species, and, in a sense, Platonic Forms, are *one in number*. This view is related to the problem of the *Third Man Argument*, and it will be made clearer later in this chapter, since it is vital when addressing the problem of universals. As a result of *Zeta*, it is said that for this *aporia* that, my principle is my essence and, hence, it is *one in number*, and, somehow, it is simply the same as yours, since we belong to the same kind, and it is *one in species*.

Scaltsas (2010, p.193) argued that in terms of the result reached by Aristotle in *Metaphysics Zeta*, on the one hand, the abstracted universal form is immaterial, definable and knowable and common to all the substances of the kind. On the other hand, the substantial form in actuality cannot be differentiated from the matter. It is the concrete substance itself, hence it is not definable. The substantial form in actuality is particular, as Aristotle said; it should be numerically one and it has to be the same as the subject (for example, Socrates is the same as his essence, himself), but the substantial form in abstraction is universal. It is in abstraction one, as well, but not *one in number*, but *in form*, or in *kind*. For example; universal animal is the substance of a group of animals. All of these animals are *one in form*, or it is called as, *one in species*, e.g. being animal. In this case, the substance of all animals is one (universal) and they are *one in form*. Generally, this means that if the universal animal is the substance, all instances of animal have the same substances. There

⁵² Halper (1987) suggests that form is both universal and particular, but Aristotle uses these terms to refer not to *kinds of entities* but to *characteristics*. Form has both, because it is one in two different ways (*one in number* and *species*), and form can be one in both ways because it is *actuality*. Scaltsas (2010, p. 168) writes that "The substantial form in actuality is particular, but the substantial form in abstraction is universal. The form in actuality is not reidentified but it is particular, by unifying the non-substantial forms into a single whole. In actuality, substantial form is the subject of all non-substantial forms, and ultimate subject hood is particularity".

are no obstacles on this point for the substancehood of universals, if Aristotle did mean being *one in species* by the unity of a substance or being a certain ‘this’ in his ontology.

There is another important problem which arises regarding Aristotle’s notion of universals and it is known as the *Third Man Argument*. Aristotle posits the problem as follows: Platonists claim that universals have a status as if they are a particular thing. In other words, they claim that universals themselves are *this something*, or as it was mentioned they are *one in number*. At this point, a problem arises that if they are *this something*, then a particular substance (e.g. Socrates, this horse), would be a bundle of substances, many animals (*Met.* 1003a10–12). Therefore, it is impossible to call universal principles ‘*this something*’, hence, they cannot be substances. Aristotle writes in *Beta* that;

“... if it is to be possible to posit that which is predicated in common and one thing, then Socrates will be many animals; himself, the human and the animal (*Met.* 1003a10).”

In this passage, Aristotle means that if each universal is *a this (one in number)*, and in accordance with his definition of universals, if every universal should be predicated of a thing, there is a corresponding particular in the thing, which is absurd (Madigan, 1999, pp.144). As illustrated earlier, Socrates may be a bundle of many particulars. One of the main characteristics of Aristotelian substances is that they should be ‘a certain this’, or, in other words; one in number. According to Platonists, forms are substances, they can exist separately from particulars, but still they are one in number. Aristotle rejected this idea. Being one in number, or a certain ‘this’, is true only for primary substances and they are not universals, otherwise the problem still follows; how could such a thing be both one in number and predicated of many things, if universals are one in number. For instance; man is a species in the case of both Callias and Socrates. If it is claimed that Socrates is a particular man, and man is somehow a certain ‘this’, it causes an absurdity. Aristotle summarized this problem as the third man argument in the following passage; if universals were substances, and they were a certain ‘this’;

“... further; in Socrates there will be a substance in a substance, so that he will be the substance of two things. And in general it follows, if man and such things are substances, that none of the elements in their formulae are the substance of anything, nor does it exist apart from the species or in anything else; I mean, for instance, that no animal exists apart from the particular animals, nor does any other of the elements present in formulae exist apart (*Met.* 1038b28) ... no common predicate indicates a ‘this’, but rather a ‘such’. If not, many difficulties follow and especially the third man argument” (*Met.* 1038b34).

In this passage, first, if a universal (man, for example), were substance, or something one in number, this universal itself or its form cannot be *in* the substance of anything, since a species cannot be ‘in’ a subject, it could be said ‘of’ a subject. Second, it cannot exist separate from particulars, and it cannot be substance, since substance should be independent of all other entities, the definition of being one in number necessitates this independence. However, it is not true for a universal entity, such as animal as an example in this passage; no animal exists apart from the particular animal. Finally, it is claimed that there are no common predications that could be indicated as a certain ‘this’, or one in number. If so, as is indicated, the problem which arises is the third man argument. Socrates is a substance of himself as a particular human being, and man is a substance as a certain species of Socrates, and animal is another substance of Socrates as its genus. Socrates now has many substances, and this makes him a kind of bundle of substances, and this is absurd. In short, Aristotle discusses the problem of universal and substance, as the problem of “being one in number” and “being one in species” in *Beta*. Moreover, the general conclusion of *Beta* shows that substances are particulars, since substance should be one in number. Aristotle never talks about ontological relations between particulars and universals, and according to the result of *Beta*, particulars still cannot be known, because he insists that the knowledge and definition is of universals. This causes an ambiguity on substances, and this is why I discuss the ontological relations between universals and particulars in this chapter.

In *De Interpretatione*, Aristotle has an explicit definition of universal and particular, and he states that; “Some things are universal, others are particular. By universal I mean that which is by nature predicated of many things, by particular what is not; human being for instance, a universal, Callias a particular” (*De. In.* 17a3538). In this passage, universals and particulars are defined as two different things or entities. In other words, Aristotle says that *universals exist*, there are such entities; universals. However, in this passage, it is the only argument about universals. Aristotle does not mention something more, for example, how they exist, or what the ontological relation

between particulars and universals is. The only relation that can be outlined here is *predication*. Universals are *predicated of* many things and particulars are not. This passage, naturally, refers to the *Categories*. In the *Categories*, primary substances are defined as entities which are not said of a subject, whereas secondary substances are *said of a subject*. This leads us to a discussion of the differences between *predicated of* and *said of* in order to make clearer the nature of universals, and their ontological relation with particulars.

2.2. Universals in the *Categories*

As has already been indicated, in Aristotelian ontology, there is no explicit theory of universals. In other words, Aristotle did not hold some explicit views regarding the status of universals in his ontology. Firstly, his general idea about universals could be summed up with some disagreement with Platonic ontology, for example universals – or Platonic forms cannot exist separately (or they are not separated). Secondly, there are some negative remarks in his substance theory on universals, as indicated above. For example, universals are not substances, since they are not *this-something* but *such*. Lastly, there are basically two important definitions to the Aristotelian view of universality that universals are *predicated of* particulars (or, in the wording of the *Categories*, primary substances), and they are *said of a subject*.

As indicated in the first chapter, the problem of ontological relations, between particulars and universals, also involves the main *aporia* of whether principles are universals or particulars. It is the general approach that on the one hand, in the *Categories*, Aristotle does not mention some clear arguments regarding this relation for example; how primary substances are individuated, how secondary substances have a role for their individuality. On the other hand, it is said that Aristotle attempts to answer all these questions in *Metaphysics Zeta*. In other words, it seems that later works are responses to all these problems. However, the way in which Aristotle uses in *Zeta* is ambiguous, and that is why the main *aporia* and other questions still seem insoluble.

One of the main arguments of this thesis is that the problem(s) in Aristotelian substance theory, is only solved by focusing on Aristotle's notion of universals and their ontological relations with particulars. It is explicit that, it is needed to consider what Aristotle says about secondary substances in the *Categories*, and how they are related with primary substances. I am adopting this methodology, because of the main argument for the *aporia* (whether Aristotelian substances are

both particular and universal). According to this argument, I claim that the problem is solved by focusing on the ontological relation between particulars and universals. However, the general tendency for this problem rules out this relation between particulars and universals. For example, Scaltsas (2010) says that Aristotelian substances are both universal and particular by focusing on the distinction between *actuality and particularity*. Also, Halper (1987) claims that particularity and universality are *characteristics* of Aristotle's substances. Although they give effectual solutions for the problem, they still do not mention the ontological relation between universals and particulars.

Although Scaltsas (2010), and Halper (1987) explicitly claim that Aristotelian substances are both universal and particular, they either do not mention the ontological relation between universals and particulars or reject this ontological relation between them. For instance, according to Halper, it could be claimed that substances are both universal and particular when analysing them as *characteristics*, but not entities, and if we are not talking about entities, it is unnecessary to talk about the ontological relations between those entities. However, according to the essentialist interpretation of Aristotle's substance theory, including myself, universals and particulars are entities, and they are both substantial, and it is necessary to discuss the ontological relation between them. However, some scholars, such as Lowe (2006, 2012) and Cohen (2009), explicitly claim that to solve the problem of ontological relations and, naturally, ontological dependency, is necessary to analyse the problem of the status of Aristotelian substance. That is why first of all, in the present chapter, the ontological relations in the *Categories* are discussed.

2.2.1. "Said of a subject": The Ontological Relation of the Primary and Secondary Substances

Aristotle uses some technical terms to describe the ontological relation between universals and their respective particulars. One of the most important phrases in these concepts is *being said of a subject*. What is meant by the phrase and its importance in the Aristotelian theory of universals will become clearer however, it should be emphasized that this phrase is important in the theory of predications (essential and accidental) in Aristotle's ontology. Therefore, Aristotle uses this

phrase with another ontological term in his system, namely: *predicated of*.⁵³ It is necessary to analyse the Aristotelian *four-fold ontology* in order to see these relations clearly, and then it is discussed predicated of and in relation with other two main phrases; ‘said of’ a subject and ‘being in’ a subject.

Firstly, in the *four-fold ontology*, the ontological priority belongs to primary substances. Aristotle defined primary substances as neither ‘said of’ a subject nor ‘in’ a subject. They are the most basic subjects, which means that they cannot be in another subject and they are not said of a subject. In Chapter 2 of the *Categories*, Aristotle drew a scheme for his *four-fold ontology*. Moreover, in Chapter 5 of the *Categories*, he only described primary and secondary substances. The first salient thing is that he used the same definition for primary substances in both chapters, and he wrote that **(1)**: “Some are neither in a subject nor said of a subject, for example the individual man or individual horse” (*Cat.* 1b4). And in Chapter 5 with the same example, he wrote “what is called a substance most strictly, primarily, and most of all, is neither said of a subject nor in a subject” (*Cat.* 2a11).

In Chapter 5, however, he does not use the same definition for secondary substances or other entities, as he uses in chapter 2 of the *Categories*. Now it is useful to turn back to the main business of this section and describe the relation between primary and secondary substances using the phrase ‘being said of’ a subject. First, the other entities which are mentioned in the four-fold ontology and their definitions with Aristotle’s own examples are shown as follows:

(2) Secondary Substances: “Some are said of a subject, but are not in any subject. For example, man is said of a subject the individual man, but is not in any subject.” (*Cat.* 1a20).

(3) Particular Properties: “Some are in a subject but are not said of any subject. For example, the individual knowledge of grammar is in a subject; the soul, but is not said of any subject.” (*Cat.* 1a25).

(4) General Attributes: “Some are both said of a subject and in a subject. For example, knowledge is in a subject; the soul, and is also said of a subject; knowledge of grammar.” (*Cat.* 1a30).⁵⁴

⁵³ He writes in *De. In.* universals are predicated of many things by their nature. However, in the *Categories* they are identified by the phrase of “said of”.

⁵⁴ Aristotle mentions four different entities in his classification in the *Categories*, but he never named these entities except for primary substances. As I have said, additionally, he did not describe explicitly secondary substances as he did in Chapter 2.

This four-fold classification generally relies on two phrases, as has already been explained; ‘being in’ something as subject, and ‘being said of’ something as subject. According to Ackrill (2002, p.74), the first phrase serves to distinguish qualities, quantities and other categories from substance, and the latter phrase is for distinguishing species and genera or secondary substances from primary substances.

Second, however, as was indicated above, in the *four-fold classification*, Aristotle referred to another entity, as both ‘said of’ a subject and ‘in’ a subject that they are not secondary substances, since Aristotle explicitly stated that secondary substances are not in a subject.⁵⁵ As an example of this entity, “knowledge is in a subject, the soul, and is also said of a subject, it is knowledge of grammar” (*Cat.* 1b). For this reason, specifically, it is said that the phrase ‘said of’ describes the relationship between primary and secondary substances, but in other sense, it is also the relation between **general attributes** and **particular properties**. In general, the ‘said of’ relation is a relation between universal entities and particular entities. For example, in the first sense of the relation, man is said of Socrates, and man is also said of Callias. In the other sense, whiteness is said of both the whiteness of this desk and the whiteness of Socrates.⁵⁶

Third, *four-fold classification* of things is based on two phrases; *being in* something as subject, this phrase serves to distinguishing qualities, quantities and items or other dependent categories from substances. The second phrase is *being said of* something as subject – this phrase serves to distinguish species and genera from particulars, basically (Ackrill, 2002. p.74). In the second chapter of the *Categories*, Aristotle writes explicitly that some (things-entities) are *said of* a subject but are not *in* any subject. For example, man is *said of a subject*, the particular man, but is not *in* any subject. Furthermore, in Chapter 5 of the *Categories*, Aristotle divides *said of a subject* from *predicated of a subject*, and he claims that whatever is *said of a subject*, the name and the definition are necessarily *predicated of* that subject (*Cat.* 2a19). According to Aristotle’s own example; if we say that man is said of a subject, a particular man, the name of man and its definition will be

⁵⁵ “Man is said of the individual man as subject, but not in a subject: man is not in the individual man” (*Cat.* 3a11).

⁵⁶ Particular properties, like the whiteness of Socrates, will be discussed in the present chapter with the relation of ‘being in’ a subject.

predicated of the particular man. Obviously, a relational difference can be drawn in this case. In the case of said of a subject, there is a relation established between two entities; man and a particular man. However, in the case of *predicated of*, there is a relation between *a name* (the name and definition of man) and a particular man.

In other words, what Aristotle is saying here is that if man is said of a particular man, the name and the definition of man is *linguistically* predicated of the particular man. It would be illustrated by using another example; if we say that X is said of Y, the second premise follows that, the name and the definition of X may be predicated of Y, *linguistically*. On the other side, if we say that X is said of Y, it means that Y is *instantiated* by X, or that Y falls into the extension of X. In Aristotle's own words, a particular man is an instance of man, and, namely and linguistically a particular man can be called as man. In the translation of the *Categories*, Ackrill (2002, p.75) says that there is no proper and clear explanation about what Aristotle clearly means when he says '*said of something as subject*', but Ackrill adds that what Aristotle has in his mind is that this phrase indicates the distinction between particulars and their species and genera. It means that said of something as subject, or species or genera of some particulars, in Aristotelian ontology are not only *names*, they are *things* as well.⁵⁷

It is not clear when Aristotle uses both phrases "predicated of" and "said of", in the discussion of the ontological status of universals or secondary substances in the *Categories*. However, it may be claimed what Aristotle has in his mind is that secondary substances, or substantial universals, are not only *names*, which are predicated of their instances, but they also are substantial, and they exist, because they are *said of* a subject. The ambiguity of usage of these phrases could be shown in Aristotle's words as follows;

⁵⁷ It is useful to note that in *De Interpretatione* Aristotle identifies that universals are, by its nature, *predicated of* a number of things. However, in the *Categories*, he says secondary substances or universals are *said of* subject. In this case, according to the former universals are names, but according to the latter, said of relation signifies that universals are entities rather than names.

Said of a subject:

- 1- If something is *said of* a subject (*Cat.* 2a19).
- 2- Its name (man), and its definition are *necessarily predicated of* the subject. (*Cat.* 2a20).
- 3- The definition of man will be predicated individual man (since the individual man is also a man). (*Cat.* 2a23). Or man is *said of* the individual man.

Predicated of a subject:

- 1- If something is *in* a subject (*Cat.* 2a27), it could be said that it is *predicated of* this subject, **but;**
- 2- Neither the name nor the definition is predicated of the subject. (*Cat.* 2a28).
- 3- White which is *in* a subject (body), is predicated of the subject, for a body called white. But the definition of white **will never be predicated** of the body. (*Cat.* 2a32).

In the sense of the ‘said of’ relation, the name and the definition of the entity necessarily would be predicated of the subject. For example, ‘Socrates is man’ can be interpreted as that man is said of Socrates, and/or that man is predicated of Socrates, and *necessarily* the definition and the name of man would be predicated of Socrates, because of their relation ‘said of’. On the other hand, according to being in relation, it is claimed that predication is only *accidental*. For instance, when it is said that Socrates is white, it can be understood that white is *in* Socrates, and white is *predicated of* Socrates, but the name and definition of white cannot be *predicated of* Socrates because of their relation ‘being in’. On this point, it is useful to discuss in detail the relation of subject and other categories; ‘being in’ a subject.

As aforementioned, the phrase *said of* a subject shows the relation of a subject and its kinds – species/genus - and the definition of this subject. Aristotle refers to species and genus as secondary substances in the *Categories*. Here, the question of why species and genus are referred to as substances, and what the role of the phrase *said of* in this point is arises? Aristotle says that “the species and genus of particular substances are themselves called substances because, if one is to say of the particular man *what he is*, it will be in place to give the species or the genus” (*Cat.*

2b32). If we consider the question *what is a man* we will strongly inclined not only genus but also differentia. “The differentia seems to be part of the what is it of secondary substances.” (Ackrill, 2002, p.86). If we ask what it is, in terms of the identity of a particular, the answer lies in defining the species and genus in which that particular falls.

Lastly, it has been indicated that Aristotle did not use the terms *universals* and *particulars* in the *Categories*. However, what he says about the primary and secondary substances and the *said of relation* indicates that secondary substances and general attributes are universals, and what he mentions regarding secondary substances could be a general frame of his views on universals. He clearly states that primary substance seems to signify *a certain this*. As regards the primary substances, it is indisputably true that each of them signifies *a certain this*, for the thing revealed is individual and *numerically one*. However, species and genera signify a certain *qualification* ⁵⁸, for the subject is not, as the primary substance is one, but man and animal are *said of* many things (*Cat.* 3b10-15).

To sum up, the *said of* relation is the relation between species and their membership, and way of relation can be distinguished from all other *linguistic* predications. Callias is white for example, is a kind of predication, but the definition and the name of white cannot be *said of* Callias, since Callias is not a color. However, only in the *said of* relation the name and definition can be predicated of the subject. So far, what has been discussed is that universals (kinds or secondary substances) are the things that can be *said of* a subject, in terms of Aristotelian methodology in the *Categories*.

⁵⁸ “However, it does not signify simply a certain qualification, or as white does. White signifies nothing but a qualification, whereas the species and genus mark off the qualification of substance, they signify substance of a certain qualification” (*Cat.* 3b20-24).

2.2.2. “Being in a subject”: The Ontological Relation of Primary Substances and Individual Properties

Being said of is one of the phrases that is used by Aristotle in the *Categories* regarding the relation between secondary substances and primary substances. As aforementioned, the phrase is important for understanding ontological relation between a particular and universal entities in Aristotle’s ontology. Another phrase is *being in a subject*, which is used for the relation of primary substances and other categories, especially particular properties e.g. the whiteness of Socrates. Aristotle’s *four-fold ontology* includes non-substantial particulars, and the phrase *being in a subject* shows the status of non-substantial particulars and their relation with the primary substances or substantial particular.

Particulars are classified as two kinds in the *Categories*; one class is primary substances and the other is non-substantial particulars (or as I called particular properties)⁵⁹. Aristotle wishes to attribute to the particularity of inferences, and through that the way in which the ontological distinction between particular substances and particular properties, that is to say, between primary substances and their accidents as diverse types of particular items is conceived by him. (Mesquita, 2015, p.399). Primary substances are prioritised ontologically in the *Categories*, Aristotle says that all the other things are either said of the primary substances as subjects or in them as subject, so “if the primary substances did not exist, it would be impossible for any of the other things to exist” (*Cat.* 2a34-2b7).

The most remarkable feature of non-substantial particulars determined by Aristotle is that they are something *in* primary substances, but not as a part of them, and they cannot exist separately from what it is in (*Cat.* 1a20). The question that arises is what it means to say that, for example, A is *in* B, but A is not a part of B. If it is said that Socrates is white, the shade of white *in* Socrates is distinguishable, could it be possible? Another question that arises is whether it is possible to say that the same shade of whiteness can be *in* another person-particular substance?

In the second chapter of the *Categories*, Aristotle divides all things which exist into four classes. This shows that some things that are not said of a subject are particular or, in Aristotelian wording,

⁵⁹ Those are named, as well, as substantial particulars and *inhering*(non-substantial) particulars, respectively.

they are *one in number*. This characterization applies to a certain man, or a certain horse, or namely, primary substances. However, in this fourfold ontological system, there are some things not *said of* a subject but *in* a subject, and they are still particular or one in number, with Aristotelian exemplification, a certain white or a certain knowledge of grammar.⁶⁰ Traditionally, it is claimed that what Aristotle meant in the description of ‘being in’ the subject is the uniqueness and inseparability of inferences. The reason for this claim, according to Ackrill (2002, p.74), is that the inseparability requirement has the consequence that only particulars in non-substance categories can be ‘in’ particular substances. For example; a certain white would be inseparable from the subject in which it is, in the sense that it would not be possible to find exactly the same white in any other subject (Mesquita, 2015, p.404).

On the status of particular properties, there are two different views. The first is known as *Owen’s perspective*, and claims that non-substantial particulars are *sharable universals* (instances of non-substantial universals).⁶¹ The second view is called the *traditional perspective* and it mainly states that particular properties are *unsharable particulars*. The latter view generally suits what Aristotle says about non-substantial particulars, but in this chapter, I reject this notion, and claim that particular properties are sharable or, as Lowe (2006, p.21) argues, they are instances of general attributes.⁶²

Firstly, according to the traditional view in the *Categories*, the non-substantial and substantial categories have the same sort of structure of genus-species-relation, and this view generally accepts Aristotle’s claims that there are un-sharable particulars in his ontology (Granger, 1980, p.604). For example; in the case of substantial categories; the genus animal is *said of* the species man and man is said of a particular man. The same structure (or relation) is true of non-substantial

⁶⁰ “By in a subject I mean what is in something, not as a part, and cannot exist separately from what it is in. for example the individual knowledge of grammar is in a subject, soul, but is not said of any subject, and the individual white is in a subject” (*Cat.* 1a25).

⁶¹ Granger (1980) claimed that there are two different approaches in terms of the status of particular properties and its relation with substantial particulars – primary substances, namely; Owen’s position and the traditional position.

⁶² Lowe (2006) calls general attributes and particular properties as non-substantial universals and non-substantial particulars, respectively.

categories as well. For instance; the genus color is *said of* the species white, and white is *said of* a particular – a shade – of white.

Secondly, Aristotle insists that all *instances* of a substantial kind (or a species) should be unsharable particulars, hence, they are substantial and there are no less general classes to share it. Moreover, another important explanation in terms of the criterion of being a certain this (*tode ti*), shows that if something is not said of a subject, that thing is particular and unsharable. This feature is valid for non-substantial particulars as well. Ackrill agrees with this view and claims that if something is in a subject, it must be unsharable or it must be *a certain this*. (Ackrill, 2002, p. 74). For example, a particular knowledge of grammar *in* Socrates (a substantial particular), is unsharable, since it only belongs to that particular subject, and this makes the entity unsharable and peculiar to Socrates.

Thirdly, Owen (1965) agrees with the traditional view of substantial and non-substantial universals to an extent and he maintains that there are both substantial and non-substantial categories of universals. Both are said of what falls under them. However, he disagrees with the traditional views regarding the status of non-substantial particulars. Firstly, the primary substances are particular and unsharable, since in definition, they are neither *said of* a subject nor *in* a subject. However, non-substantial particulars are not only *said of a subject*, but *in a subject*. For example, a particular man is an instance of the kind – men – and it is an unsharable instance. However, a particular shade of white could be considered a sharable instance of the kind of white.

Owen (1965) in his works, firstly, compares genus and its relation to species and specimen; namely animal and color. In this regard, he agrees with the traditional view, since both non-substantial and substantial universals have the same relation with their less general classes and instances. On the one hand, animal is said of man, and animal and man is predicated of a particular man; Socrates. However, Socrates or his particularity cannot be predicated of anything else, since Socrates is a particular substance (Owen, 1965, p. 98). Color, on the other hand, is predicated of pink, and color and pink are predicable of a particular shade of pink. Moreover, the same thing is true for non-substantial particulars (Owen, 1965, p. 98).⁶³ This means that this particular shade of pink cannot

Genus	Animal, Color
Species	Man, Pink
Specimen	Socrates, shade of Pink

be predicated something less general than itself, since it is a particular entity. However, Owen's main disagreement is that it does not mean that it cannot be found in more than one subject. Any particular shade of color is reproducible, or sharable.⁶⁴

In general, Owen claimed that there is no explicit thesis in the *Categories* on the uniqueness and inseparability of inferences. In other words, if it is accepted that inferences are inseparable, it is not a consequence of their peculiarity. It could be reasonable to say that inferences are particular, or that there are some particular properties in that they are inferences of a substantial particular. Owen (1965, p.99) wrote that "Any particular shade of color is of course reproducible. Any bit of linguistic knowledge can of course lodge in more than one head. Aristotle does not for a moment contemplate denying this. His commentators saddle him with the denial". Lastly, Owen suggests that the phrase "separately from what it is in" can be taken generally. That means, Aristotle strictly claims that no universal can exist separately from the particulars of which it is predicated. In other words, it is true for non-substantial particulars as well. They are not in this case unsharable particulars, they are sharable universals, or only an instance of a universal entity.

2.3. The Status of Universals: Realism and Nominalism

The problem of universal is one of the main problems in contemporary metaphysics. Throughout this chapter, the status of universals and their ontological relation with particulars in Aristotelian ontology, specifically in *the Categories*, was discussed. Firstly, Aristotle's works were analyzed in terms of the relation of universals and substance. Then, the phrases which are used by Aristotle to determine the relation between primary substances and secondary substances in the *Categories* was outlined in order to grasp the status of universals; namely, *said of a subject* and *being in a subject*. The main business of this chapter, now, discussing the status of universal, in contemporary approaches. First of all, two opposite views, realism and nominalism, are mentioned, and secondly

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⁶⁴ "Color (a general attribute) is in body (a general entity), consequently, it is in a particular body, for if it were not in any of the particulars, it would not be in body at all" (Owen, 1965. p.101).

in this section, I address the Aristotelian position in the debate of the status of universals, especially in contemporary metaphysics, under the chapter of *Aristotelian Realism*.

The distinction between universals and particulars is one of the most fundamental distinctions in ontological debates. Ontologically, some philosophers say that only universals exist, some hold that only particulars exist, on the other hand. Others claim that both universals and particulars exist, but this view also has areas of disagreement. One of the most important questions in this respect is whether entities in one of these categories are reducible to entities in the other (Lowe, 2002, p.347). Another possible approach to the problem is the argument that universals and particulars are mutually irreducible and thus both these categories are fundamental.

This distinction between universals and particulars is generally discussed under two main views, namely, nominalism and realism. The former claims that only particulars exist, however, according to realists, whether or not particulars exist, universals certainly exist. According to nominalists, there are universal entities, which exist only to explain *semantic* features of language. However, realists contend that these semantic features can indeed only be explained by invoking universals. It should be noted that both these disciplines have many different classes under them, and these classes differ, since they all claim some different ways of relations between universals and particulars. It is obvious that the criticism of realism and nominalism is the business of another research study. However, in this chapter, they should be analyzed, by relating them to our main problem; whether Aristotelian forms are universals or particulars. It is obvious that the determination of the status of universals and their ontological relation with particulars is vital in order to determine a salient solution for this problem. As indicated before, the main claim of this paper is that Aristotelian forms are both universals and particulars, and this idea is supported by a contemporary approach; The Four-Category Ontology. Before discussing the entities of this ontology and its relationship with a neo-Aristotelian substance theory, it is vital to determine the status of universals in contemporary metaphysics.

2.3.1. The Realist View

Realists claim that all entities can be divided into two categories; particulars and universals. The category of particulars, on the one hand, includes all concrete objects, such as human beings, material bodies etc.? Universals, on the other hand, are the entities which are exemplified by

different particulars. According to realists, the main difference between these two categories is that particulars are non-repeatable entities, whereas, universals are repeatable entities.⁶⁵ This means that a universal entity can be exemplified by different particular entities. In Aristotle's wording, this difference can be interpreted as follows;

- A particular entity (substantial and non-substantial); a non-repeatable entity = A certain this (*tode ti*); not-said of a subject.
- A universal entity (substantial or non-substantial); repeatable entity = a-such (*toionde*); said of a subject

Some realists claim that there are different kinds of universals. For example, some of them argue that there are *un-repeatable* universals, and this issue will be made clearer later in the present chapter. However, realists hold the general view that there are two different classes of universals, namely, kinds and attributes. Michael Loux (2006, p.20) writes that; “philosophers who draw this distinction frequently tell us that while kinds constitute the particulars that exemplify them as what they are, properties namely modify or characterize particulars antecedently so marked out; and they often claim that kinds are individuating universals”. In this case, obviously, kinds correspond to secondary substances, and the properties signify the other categories (e.g. qualification). Moreover, as indicated in the previous chapter, secondary substances or kinds show what particulars or primary substances are. For example; Socrates (a particular) is a human being, and an animal (his genus). As Aristotle says, not only the name of the kinds, but also their definitions are predicated of particulars.⁶⁶

One of the main problems of realism regards unexemplified attributes. The question that arises is are there any unexemplified universals or un-instantiated universals, or are all universals in fact instantiated? Some realists claim that, there are some, and one of them is Plato.⁶⁷ However, Aristotle insists that every universal has at least one instance at some time or other. It is plausible to think that Aristotle endorsed an ontology involving only exemplified universals (Loux, 2006,

⁶⁵ Loux (2006) defines it as each particular occupies a single region of space at a given time.

⁶⁶ “It is clear from what has been said that if something is said of a subject both its name and its definition are necessarily predicated of the subject, the definition of man will be predicated of the individual man” (*Cat.* 2a19).

⁶⁷ “For example, the form of largeness. It exists as an ideal form and it is not dependent on the particular *large* things” (Hansen, 2010, p.66).

p.41). It is mentioned that Aristotle defines universals as naturally predicated of many things.⁶⁸ Unless many things, or particulars would exist (or we may say that at least one particular entity which instantiates a kind or universal), it would be said that no universal exists.⁶⁹ Aristotelian ontology includes only instantiated universals. In other words, in Aristotelian ontology universals depend on the existence of particulars to exemplify them, and this means that universals do not have an ontological priority in this ontology. According to Loux (2006, p.43), the existence of universals depends on there being particulars that are this or that sort of things, are characterized in this or that way, or are related to each other in this or that way.

2.3.2. The Nominalist View

According to the nominalist view, there are only concrete particulars, and this view denies that there are universals. In realist ontology, there are two different categories; particulars and universals, whereas nominalist ontology includes only one category of entities; particulars. There are many classes of realism, which are based on the relation between particulars and universals, and there are some classes, which are nominalism, and they differ in terms of the status of particulars. Generally, in terms of the nominalist view, only particulars exist. In other words, the existence of universals is rejected, or even if there are such entities, they are not universals. Realists, however, claim that all particular entities are instances of universal entities. For example, redness is a universal property, and all particular things which are red are instances of this universal entity of redness. In terms of the realist view, there are universals and the relation between universal and particular entities is *instantiation*.⁷⁰

Particular entities could have the same property, such as redness. So, the question arises of how do nominalists explain more than one particular having the same property? There are many classes of nominalism according to their answers to this question and the status of particular entities. If there are no universal entities, saying that all claims about universals are only claims about particulars is quite problematic. Some extreme classes of nominalism encounter problems, and to solve these problems they agree on the one important common point about nominalism; “they

⁶⁸ *De In.* 17a36

⁶⁹ “If the primary substances did not exist it would be impossible for any of the other things to exist” (*Cat.* 2b7).

⁷⁰ As an ontological relation between universal and particular entities, instantiation will be discussed in Chapter 4.

claim that only the particular exists and that claims about universals are only disguised ways of talking about concrete particulars” (Loux, 2006, p.46). This class of nominalism can be called *metalinguistic nominalism*. Moreover, another main claim of nominalist theory is that there are no multiple exemplifiable entities. On the one hand, according to realist theories, ontologically, there are two irreducible entities, or it can be said that realist ontology can be called as two-category ontology.⁷¹ On the other hand, the nominalist view tries to explain all ontological relations with a one-category ontology, or that only one entity exists, namely particulars.

For nominalists, talking about universals is just talking about the elements of language. “This means for example, that even the notion of universality itself is to be explained in terms of the linguistic activity of predication” (Loux, 2006, p.63). *Metalinguistic nominalism* mainly holds this view, and its proponents claim that universals are nothing more than linguistic expressions. However, it can be said that if there are no universals, then there are no repeatable or exemplifiable entities. For example, according to realism, all general attributes can be exemplified by their particular instances, such as; the attributes of whiteness. Another class of nominalism, *the trope theory*, claims that there are no such kinds of entities or attributes, since all of them are particular. This view is different from the others in that they accept things like colors, sizes etc., but they hold that all these things are particular (Loux, 2006, p.72).

Moreover, Lowe (2002, p.354) says that, according to nominalists, the sentence ‘the chair is blue’ refers only to one entity; this chair, which is the particular entity. Moreover, they can say that blueness characterizes this chair also logically equivalent to this chair is blue, and then implicitly they can still claim that the latter sentence still refers to this chair. In this case, obviously, nominalists should explain how the predicated side of the sentence – is blue – is not denoting blueness – a certain universal.

Lastly, as indicated earlier, the main claim of the Aristotelian tradition is that some attributes are particular. As demonstrated in the *Categories*, Aristotle gives some examples on non-substantial particulars. So, at this point, the question that should be asked is what the position of Aristotle in this debate is, and how is his position important for the main problem in his substance theory? On the one hand, he offers negative remarks regarding them but claims that there are universals. On

⁷¹ One and two category ontologies will be discussed in Chapter 4.

the other hand, he accepts some particular attributes in his categories. This shows that Aristotle occupies a middle position between nominalism and realism.

2.3.3. Aristotelian Realism

Aristotle has a middle position between nominalism and realism. The reason for this is that his ontology includes universals, which are the supportive side of realism. However, universals are not separated from particulars, and particulars have ontological priority, that could be said that a sort of nominalist approach. In Aristotelian ontology, there are general kinds, attributes, abstract objects and properties, and Aristotle, generally, defines them as universals that *they are naturally predicated of many things*. It means that they are exemplifiable entities by their instances, particulars. Moreover, Aristotle says that kinds, or universals, mark out their instances as what they are. In other words, universals can give an answer, when the question ‘what is it?’ arises about particulars. For example; Socrates is a subject for human being, and human being is *said of* that subject, Socrates. The question that may be asked is how do these general kinds and other entities that are called universals exist, and how do they relate to individual objects?

As aforementioned, these questions refer to the *problem of universals*. Traditionally, Plato claims that universals exist in a separate reality like objects, as such as some kinds or entities. However, Aristotle says that both a universal entity (e.g. human-being), and a particular instance of this entity (e.g. Socrates) would never be separated from each other. It is said that Aristotle has a realistic theory of universals, but the difference is that he rejected the existence of both separated universals and also uninstantiated universals. Aristotelian realism can be defined as *immanent* or *moderate* realism, since he *immanentized* the universal kinds or attributed to their instances. It is the reason that Aristotelian realism has the connection between nominalism and realism.

According to some realists, universal entities are completely different from particulars, and they claim that universal entities are independent, or are transcendent; they can exist apart from particulars and they are abstract. In other words, universal entities exist neither in space nor in time. This kind of realism can also be called Platonism (Galluzzo, 2015. p.85). Aristotelian realism differs from this idea in one important respect. It claims that universal entities are not transcendent but immanent; they cannot exist apart from particulars, which is the reason why they are dependent

entities. If they are dependent and cannot exist separately, how can it be claimed that there are universal entities? According to Aristotelian realism, universal entities can exist *in* particular entities, they are immanent. Aristotelian realism concludes that the existence of a universal entity depends entirely on some particulars. For example, some human beings must exist because it can be said that the *human being* universally and generically exists (Galluzzo, 2015, p. 109). However, strong realism or Platonic realism claims that whether or not particular instances exist, the universal exists.

The status of form can be drawn in this point. Aristotelian forms are the substance of the objects, and they are the entity, which makes the things *what they are*. As was indicated in the previous chapter, it may be said that, Aristotelian forms are particular, since the object and its essence are the same, and this means that essences of the entities are peculiar to them. On the other hand, somehow, it could be concluded that Aristotelian forms are universals, since all concepts, predicates are universals and Aristotle says that *no particular can be defined*.

Having said that, in this chapter, Aristotelian substance theory cannot be discussed apart from his theory of universals. However, there is no independent theory of universals in his ontology. For this reason, firstly, it was discussed some of Aristotle's main texts in order to determine what he means with the concept of universals. Secondly, the most obvious determination, and relations between particulars and universals was drawn by him in the *Categories* with the two phrases; *said of* a subject and *being in* a subject. Then, two important views on the status of universals were analysed in order to describe Aristotle's position in this debate. Now, in the next chapter, a neo-Aristotelian substance theory is analysed to support the main idea of this paper; namely, Aristotelian forms are both universals and particulars.

Chapter 3- Form, Particular and Universal in the *Four-Category Ontology*

The aim of this chapter is to develop a suggestion for addressing the main problem in Aristotle's substance theory (whether Aristotelian substances are particular or universal) by analysing a neo-Aristotelian substance theory, the Four-Category Ontology. In this chapter, first, the main problem is sketched and it is explained why this main *aporia* in Aristotelian substance theory needs a neo-Aristotelian approach and how this new ontology is a potential solution for the main problem of this thesis. Second, some main characteristics of Aristotelian substance theory and the Four-Category Ontology are compared, philosophically and linguistically. For example, the Four-Category Ontology is a new system inspired by the *Categories* and in this ontology, Lowe uses new phrases and an unique methodology, and this is discussed in this chapter.

Finally, my essential interpretation argues that particular and universal *entities* are mutually dependent with respect to the ontological dependency, and therefore, the ontological relation between them is symmetrical rather than asymmetrical. This is the reason why the question of whether Aristotelian substances are particular or universal has a two-way answer: they are both universal and particular. It should be noted that the statement that Aristotelian substances are both universal and particular does not mean that one and the very same substance can be both universal and particular. For example, Socrates cannot be both particular and universal. He is a particular entity, and, according to my argument, Socrates has a particularised form which is an instance of a universal form, namely, a human being. In a word, an entity cannot be both universal and particular, but two different entities, such as Socrates and a human being, are substantial. The reason I claim that Aristotelian substances are both universal and particular is because of the ontological relation between two entities (e.g. instantiation). With this interpretation, it is claimed that there is no discrepancy between particular and universal, as well as between most real entities ('particulars' in Aristotle's ontology, as has already been explained), and universal (the most knowable entities). This interpretation is supported by the Four-Category Ontology.

According to the Four-Category Ontology, the main reason for the substantiality of particular and universal entities is the ontological relation between them. Some traditional approaches was

discussed only by focusing on the status of forms.⁷² This means that these approaches generally have ruled out the relation between universal and particular entities, and they claim that universality and particularity are only *characteristics* of substances.⁷³ However, Lowe claims that particular and universal entities are substantial, because of their ontological relation: *instantiation*. Before discussing this relation, I discuss the status of form, particular and universal entities in the Four-Category Ontology by drawing up a general framework of this new ontology.

There are two main problems in Aristotelian substance theory. First, what Aristotle says about primary being in his corpus is different, especially in the *Categories* and in *Metaphysics Zeta*. This problem is generally discussed under the title of the inconsistency of Aristotle's substance theory (Wedin, 2005, p.2). Second, and most important, the problem is whether Aristotelian substances are particular or universal. The latter is obviously related to the former problem, since in *Metaphysics Zeta* Aristotle claims that primary beings are the form of particular entities (these are called concrete substances, or concrete entities), whereas in the *Categories* these particular entities themselves have the role of primary beings. In connection with this, Aristotle's primary substance is particular in the *Categories*, but what is problematic is whether the form of the particular entities is universal or particular in *Metaphysics Zeta*. Whether Aristotle is consistent or inconsistent is the subject of another work, but both of these problems are related to one another and their possible solutions traditionally have been discussed by analysing both the *Categories* and *Metaphysics Zeta*.

It is a general approach that the method of solving these problems has focused on what Aristotle claimed chronologically.⁷⁴ What this means is that the *Categories* has been given priority over the *Metaphysics*, time-wise, in the search for answers to these problems. However, I have a different interpretation of the main problems in Aristotle's substance theory. In the first two chapters of this

⁷² Scaltsas (2010), Albritton (1957).

⁷³ Hartman (1976), Halper (1987, 2009).

⁷⁴ For the main problem of Aristotle's substance theory, it is the traditional tendency that the discussion is constituted by analysing the *Categories* first. However, I have a reverse methodology in this project, in that I would like to start by discussing the status of forms in *Zeta*, and then discussing the *Categories* could be useful before handling the new ontology which is inspired by the *Categories*. Moreover, it could be useful to see clearly what the problem is when we looked at the entity of forms firstly at *Zeta*, and I discussed the ontological relation between universal and particular entities in the *Categories*.

thesis, I analysed first what Aristotle said in the *Metaphysics*, and then moved to the *Categories*. There are three main reasons for this methodology. First, *Metaphysics Zeta* is generally accepted as being the most mature exposition of substance theory in Aristotelian ontology, and it has been claimed that Aristotle had potential answers in this for the main *aporia*, namely, whether forms are particular or universal (Gill, 2005, p.227). Second, *Metaphysics Zeta* has an importance for the status of forms but there is no further explanation about the relationship between particular and universal and their descriptions. When I take the main *aporia* again, it contains three important entities: **form**, **universal** and **particular**. Although the definition of form and its status are the key points of this *aporia*, it is obvious that it cannot be solved without analysing particulars and universals. This is the reason why I have used a reverse method to address this problem; in other words, it is first necessary to analyse the status of form in *Zeta* and then we can go on to discuss whether forms are universal or particular. In Chapter 2, I discussed what Aristotle claimed about the concepts of universal, particular and their relation, since in the *Categories*, Aristotle gives a substantial role to both entities. Finally, and most important, the Four-Category Ontology is inspired by the *Categories*, so methodologically it was useful to analyse the *Categories* before discussing the Four-Category Ontology.

The question which arises at this point is why one of the main problems in Aristotelian substance theory needs a contemporary approach. I suggest three reasons for this requirement. First, as already stated, in *Metaphysics Zeta*, the way which Aristotle created is quite ambiguous in terms of being able to find any solution for the main problem. As was pointed out in Chapter 1, Aristotle offered three different possibilities for the status of forms and the passages in which he stated these possibilities are not really explicit. (The most explicit result in *Zeta* is that forms are substances, and for this reason I prefer to say ‘substance’ rather than ‘form’.) The three possible statuses of Aristotelian substances are that;

- Substances are particular (related passages in *Met. Zeta* 1038b8-15, 1038b135-16, 1031a15-18);
- Substances are universal (related passages in *Met. Zeta* (1036a26 Z4-1030a11, 1034a5, 1032a26 1034b20); and
- Substances are both universal and particular.

That substances are both universal and particular is the main argument of this thesis. However, several problems arise if it is claimed that forms are both universal and particular. First, Aristotle never explicitly or implicitly claimed this view, and second, he did not have a theory of universals apart from his substance theory. The latter is quite problematic, since I cannot show directly why and how Aristotelian substances are both universal and particular. In definition, Aristotle was not clear about the concepts of particular and universal, and this is the second reason why it is necessary to interpret his substance theory with a contemporary approach. This new ontology should accept the existence of universals, and in definition, this ontology should be discussed in terms of particulars and universals being different entities, although they are both substantial. These are some principal characteristics of the Four-Category Ontology and they will all be explained more clearly below.

The final reason is the ambiguity of the ontological relation between universal and particular in Aristotelian ontology. The most explicit passage referring to the Aristotelian universal, particular and their relationship is in the *Categories*. However, as was discussed in the previous chapter, the phrases *said of* and *being in* relation as an explanation for the universal/particular distinction has many problems. In the Four-Category Ontology, Lowe uses other phrases rather than those two; *instantiation* and *characterization* respectively. In a few words, therefore, the problem of whether Aristotelian substances are particular or universal requires the analysis of three entities; substance (form), particulars, and universals. In terms of my approach, substances are both universal and particular, I believe in that it is necessary to take into account a neo-Aristotelian substance theory. Such a theory should include **a substantial role for both universals and particulars, the acceptable and arguable relationships between universals and particulars, and the proper frame for the properties and their bearers; substances**. It will be useful to discuss some characteristics of the Four-Category Ontology to see how it is related to Aristotelian substance theory.

3.1. Some Characteristics of the Four-Category Ontology

Aristotle gives an important place to the description of substance. In addition, it is obvious that Aristotle worked hard on the issue of substance and determined the area of discussion of this issue in both his own time and still today. This substance theory has several characteristic features. For example, “in definition, substance is neither eliminable nor reducible to any other category in this theory.” (Hoffman, 2012, p.144). Aristotle claimed that primary substances can neither be said to be *of* a subject nor *in* a subject. For example, on the one hand, as was discussed in the previous chapter, primary substances differ from secondary substances since they cannot be *said of* a subject; in other words they are not instantiated by any other lower-level entity, hence they are particular. On the other hand, primary substances cannot be in another entity, for example, being Socrates is something which can only be done by Socrates himself. It is not like a qualification or a property which could be in more than one particular. In a word, in the *Categories*, Aristotle separated substances from other categories with this definition. According to Hoffman (2012, p.144), it is also one of the essential characteristics of neo-Aristotelian substance theories that substances are neither reducible nor eliminable to any other category of being, and this is one of the main characteristics of the Four-Category Ontology.

In the *Metaphysics*, Aristotle asks two key questions. The first is what kind of science investigates *being as being*, and he wrote that “there is a science which investigates being as being and the attributes which belong to this in virtue of its own nature” (*Met.* 1003a,22). The second and most important question is *what is being?* Aristotle asks this question in different ways; what are the principles or causes, or what kinds of entities exist? It could be said that Aristotle accepts that being in itself (*being as being*) can be known and there is such a science for investigating the kinds of being, and being *itself*. At the beginning of *Zeta*, Aristotle writes that “there are several senses in which a thing may be said to be, for in one sense it means what a thing is or a ‘this’, and in another sense it means that a thing is of a certain quality or quantity or has some such predicate asserted of it. Although ‘being’ has all these senses, obviously that which is primary is the ‘what’, which indicates the substance of the thing” (*Met.* 1028a9). The question now arises of how neo-Aristotelian theories in general, and the Four-Category Ontology in particular deal with the status of being and the possibility of its knowledge.

In other words, the question is whether it is possible to know reality *itself*, or in Aristotelian words, *being as being*. On the one hand, according to Kantian approaches, we cannot know anything about reality as it is in itself, since ontology can only be a science of our thinking about being, rather than about being itself. Neo-Aristotelian approaches, on the other hand, claim that there is no obstacle to knowing at least some basics of reality or being as it is in itself (Lowe, 2006, p.6). It is possible to know something about reality and being itself by asking questions about them, for example *what are the ontological categories or entities* and *how are these entities individuated*. In this case, I draw attention to a specific point which both Aristotelian and neo-Aristotelian views claim that it is possible to know being itself, and the majority of contemporary views add that ontological categories are categories of being, not categories of thought (Lowe, 2006, p.7). As I explained from *Zeta* that ontological categories are the ways of being, the most important questions about these categories which arise are how ontological categories may be related to one another and, more especially, which categories might have the strongest claim to being fundamental. This will be clarified further, but Lowe (2006, p.6) claims in his ontology first that ontological categories are hierarchically organized and second that they are individuated by the distinctive existence or identity conditions of their members.

As was stated above, Aristotelian ontology does not have separate substance and universal theories. Moreover, Aristotle's ontology of substance and universal are discussed with two different conceptions. The first is the *hylomorphic* conception of Aristotle's *Metaphysics*, specifically in *Zeta*, and the second is the *four-fold* ontology of the *Categories*. Aristotle never articulated these conceptions. However, in *Zeta*, he says that primary being has matter and form and that the concrete object is the combination of matter and form. Historically, this approach is called *hylomorphism*. In the second book of the *Categories*, as was discussed in Chapter 2, Aristotle classifies entities under four different groups and this approach is referred to as the *four-fold* ontology. The Four-Category Ontology was inspired by the ontology of the *Categories*. On the one hand, in the *Categories* Aristotle indicates two different relations, or it could be said that they are technical notions (Lowe, 2006, p.70), namely; *said of* a subject and *being in* a subject. On the other hand, the main characteristic of the new ontology is that these relations, or notions, are explained as, respectively, **instantiation** and **characterization**. These will be discussed in the next chapter, but briefly Lowe (2006, p.70) explains why he needed to change this terminology;

“Since the Aristotelian terminology of being said of and being in is perhaps less than fully perspicuous, with the former suggesting a linguistic relation and the latter seemingly having only a metaphorical sense, I prefer to use a different terminology; that of instantiation and characterization.”

The question now arises of how the Four-Category Ontology relates to the particular and universal, or what the status of the particular and the universal is in that ontology, in case of the status of Aristotelian forms or substances. Lowe claims that according to the hylemorphic system, matter is organized by form, and in this case form is understood as universal. Moreover, in this system matter is conceived of as being particular in character (Lowe, 2006, p.65). However, in the Four-Category Ontology, there are two mutually orthogonal distinctions, one between the particular and the universal, and the other between substance and property. So, in this ontology;

- There are two substantial entities: Objects and Kinds;
- There are two non-substantial entities: Modes and Properties;
- There are two particular entities: Objects and Modes; and
- There are two universal entities: Kinds and Properties.

All of these entities are discussed in the next chapter with the ontological square and the Aristotelian definitions of them. However, at this point, it is the characteristic of the Four-Category Ontology that everything that does or could exist can be categorized as an *entity*. And all entities are divisible into either universals or particulars, and on the other side of the division, all entities are divisible into either substantial or non-substantial.

Finally, as has been demonstrated, the most important feature of this new approach is that it includes universals and, most importantly, two different kinds of universal, one substantial, and the other non-substantial. Lowe states that the substantial universal, called ‘kinds’, is essential to the substances that fall under them – they are what Aristotle calls ‘secondary beings’. Secondary substances are entities instantiated by objects, or in Aristotelian language, primary substances. According to the language of the *Categories* then, it is said that kinds are said of objects rather than that secondary substances are said of primary substances. Lowe (2012, p.240) suggests that

“form conceived as a type of universal, and more perspicuously termed substantial form, is really nothing other than a secondary substance or substantial kind”. Primary substances or particular concrete objects which have forms are particular instances of forms. For example, ‘Dobbin’ is a particular instance of the substantial kind or form of horse, whereas Dobbin’s ‘whiteness’ is a particular instance of the colour universal or attribute of whiteness.

On this point, it should be noted that Lowe was an Aristotelian realist over the status of universals. He held the view that “while they are multiply exemplifiable, they exist in their instances and are contingent upon the existence of their instances” (Lowe, 2006, p. 151). The same condition and relation are true for properties (non-substantial universals) and modes (non-substantial particulars), as explained in the *Categories*. In brief, the Four-Category Ontology has universal entities and, in terms of the status of universal, Lowe was an immanent realist. He wrote that, “according to immanent realists, the properties of concrete objects are ingredients of those very objects, whereas, according to transcendent realists, these properties are separate entities to which objects stand in some special relationship of exemplification” (Lowe, 2012, p. 230).

In summary, in order to address the main problem of this thesis, if it is considered the hylemorphic approach of Aristotle, the main *aporia* is still problematic. As has been discussed, if it is said that particular concretes have both matter and form (conceived as universal), it is hard to see how a particular piece of matter has this universal form ontologically. Moreover, if it is said that this particular piece of matter has its own form, this causes other problems epistemologically. This is the reason why this key *aporia* cannot be solved by only focusing on *Metaphysics Zeta*. However, the Four-Category Ontology offers the notion that there are two forms; universal form and the particularized form instantiating that universal, but this ontology *also* offers the possibility that universal forms are ontologically posterior to particulars. It seems that this is the reason why this ontology claims that there are no uninstantiated universals. Although universals are perfectly real, they are perhaps best seen as being abstractions from, or invariants across, particulars (Lowe, 2012, p. 245). This will be clearer when it is discussed the role of the three entities of the main *aporia* in the Four-Category Ontology. First of all, I discuss the status of form in this new ontology, and the main question is: how could form be both universal and particular? Next, I outline some of the main characteristics of particular and universal entities in the Four-Category Ontology.

3.2. Form and Matter in the Four-Category Ontology

It has been explained that Aristotle's substance theory is analysed according to his two corpora and it is one of the central problems that these two passages have different conclusions in terms of the status of substances. First, primary substances are particulars (such as Socrates, Dobbin) in the *Categories*, whilst in *Metaphysics Zeta*, it is the general conclusion that primary substances are the forms of these concrete particulars, or objects. This first theory is called the doctrine of the *Categories* or *four-fold ontology*, while the second theory has been called the doctrine of *hylomorphism*. As has already been mentioned, the different conclusions of these two corpora is another problem in Aristotelian substance theory. In this paper, the main problem addressed is whether Aristotelian forms are universal or particular, and the main argument is that Aristotelian forms are both universal and particular, and this *aporia* is solved by the doctrine of the *Categories*, since in this corpus, Aristotelian substance theory involves both substantial-particulars and substantial-universals. In other words, Aristotle divided substantial entities into primary and secondary substances, and this division corresponds to particulars and universals respectively, as previously stated.

It could be difficult to say that one of the problems in the doctrine of *hylomorphism* (for example, the status of form) might be solved by the doctrine of the *Categories*, but I claim that this interpretation is possible with a new Aristotelian ontology. Although this new ontology criticizes the problem by focusing on the doctrine of the *Categories*, it accepts forms, and claims that there are two substantial forms or entities; namely substantial-particular and substantial-universal. As I have already said, the main problem of this paper – whether forms are particular or universal – involves three entities; **forms**, **particulars** and **universals**. This is the reason why I analyse the status of forms in the Four-Category Ontology in this chapter. First, I shall discuss the status of matter, and then the status of forms and their relationships with the properties or features of objects. Next, how this new ontology identifies the relation between form and the *essence* of an object is addressed. Finally, I shall address the questions of how the Four-Category Ontology includes the form but not the matter, even though it rejects the doctrine of *hylomorphism*, and how Lowe claims that forms are the principle of individuation and identity.

First, according to some Aristotelian scholars, the inconsistency of the results of the status of substances in Aristotle's corpus is unavoidable (e.g. Wallace E. 1882). In the *Categories*, primary substances are particular objects, but in *Zeta*, it is the forms of these objects. In addition to this critical issue, another problem arises over whether these forms are universal or particular, since in the same corpus Aristotle offers some arguments to support both results, as has already been shown. Although the Four-Category Ontology was inspired by the doctrine of the *Categories*, Lowe explicitly maintains that it is an ontology which includes *forms* as well, and he clearly said that "It is possible to assign to status of primary substance both to individual concrete objects and to substantial forms, because it is possible to identify items of these types" (Lowe, 1998, p.215). On the one hand, Lowe accepts that there is no inconsistency between the results of the *Categories* and *Zeta*, since he claimed that **a particular concrete object can be identified by its substantial form**. This is so because the substantial form is the principle which makes particular objects particular. It is not really different from what Aristotle said in Z17.⁷⁵ On the other hand, the question which arises at this point is: how can a particular concrete object be identified by its substantial form, if the substantial form is universal? If it is accepted, as Lowe has claimed below, that concrete objects can be identified by their forms, it is necessary to determine the status of those forms, e.g. whether they are particular or universal. If they are particular, it seems less problematic for them having a role in the individuation of a concrete particular object, and it is claimed that their **own** particular form has a role in the identification of those concrete objects. However, if they are universal, it should be asked how a universal entity could individuate a concrete object. Lowe also knows that there is another problem which is still ambiguous; he wrote that;

"Another problem might be thought to be that substantial forms are universals rather than particulars, hence not identifiable with individual concrete things of any kind. To this I reply that I am thinking now of individual substantial forms, rather than of the universals which such individuals instantiate" (Lowe, 1998, p.215)

Second, Lowe says that primary substances are particular forms, although he claims that universal forms *exist*, and they are *instantiated* by particular substantial forms. On this point, it is useful to

⁷⁵ "Why are certain things, i.e. stones and bricks, a house? Plainly we are seeking the cause. And this is the essence (to speak abstractly), which in some cases is that for the sake of which, e.g. perhaps in the case of a house or a bed, and in some cases is the first mover; for this also is a cause." (*Met*, 1041a30-33)

discuss the status of matter before analysing the universal and particular forms. According to the doctrine of *hylomorphism*, every particular concrete thing is a kind of combination of matter and form. For example, the matter of a bronze statue is bronze, and its form is its particular shape (Lowe, 1998, p.219). In this doctrine, form has the *priority*, since it is the thing which organizes or arranges matter in order for a thing of that kind to exist.⁷⁶ If we take the same bronze statue example, in this case, a piece of bronze has to be shaped in a specific way in order for a statue to exist. Lowe (1998) listed three kinds of matter: (1) what a thing is immediately made of, or proximate matter; (2) the kind of stuff; for example gold; and (3) the material substratum; this is the notion of that in which a thing's properties lie. Lowe says that the matter which Aristotle meant in the *hylomorphic* doctrine is proximate matter.⁷⁷

Third, Lowe defines, for example, the form of a statue as the specific way in which the bronze composing it is shaped, and he suggests that it is the modes (the particular property, or what Lowe calls a non-substantial particular) of the statue. In the case of this example, the statue is a *combination* of its matter (a piece of bronze) and its form (the way which the bronze is shaped).⁷⁸ Two problems arise here; the first is whether the form belongs to the statue or the bronze. It seems obvious that the form belongs to the statue rather than the bronze itself since clearly the statue is a combination of a piece of bronze and its shape. The form and the matter are two independent entities in terms of the *hylomorphic* doctrine. Second, and most important, did Lowe claim that the

⁷⁶ Lowe's general approach about the definition of form again came entirely from what Aristotle wrote in Z17. As already stated, Z17 is the critical chapter for Aristotle's substance theory, since in it Aristotle explicitly said that forms are substances. Moreover, this passage is accepted as the most important proof for individual forms, and Aristotle wrote that "Because that which was the essence of a house is present. And why is this individual thing, or this body in this state, a man? Therefore what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing" (*Met.* 1041b8-11).

⁷⁷ The Four-Category Ontology does not include the category of *matter*. Although it was inspired by the doctrine of *Categories*, it includes forms. According to Lowe, forms are conceived as both universal and particular. He explicitly stated that form, conceived as a type of universal, and more perspicuously termed *substantial* form, is really nothing other than *secondary substance* or *substantial kind*. For example, man or animal. Moreover, the main argument of his ontology is that every particular entity is the instance of a universal entity. It could be said that there are forms which are conceived as particular, but they are nothing other than what Aristotle said in the *Categories* are primary substances; Socrates or Dobbin. (Lowe, 2013, p.200).

⁷⁸ It should be noted that what Lowe means by the *form* of a statue is different from Aristotle's *efficient cause*. Generally, some scholars refer to the *formal cause* and *efficient cause* as identical. In this example, the efficient cause of a statue is the *sculptor* or his idea about the statue before he creates. However, Lowe discusses form\property relation to refer to trope theory. He says that an object is not bundles of properties, but it has its own particular form for identifying that object.

particular shape or property of an object is its form? If he did, it would be problematic to claim that the form of an object is the principle of identity over time, which is the principle of individuation. These principles will be analysed, but first it is necessary to answer whether *a particular property* of an object is its form or not.

Obviously, if we say that particular properties (or modes) are forms of their objects (at least for inanimate objects such as a bronze statue), it could be absurd *in definition*. Therefore, modes are *ontologically dependent* entities, their existence depends on the particular objects. Lowe makes this problem clear by focusing on the distinction between particular and universal. According to the Four-Category Ontology, each particular object is an instance of a universal; in the case of the bronze statue, “each particular statue does not have, but is, a particular instance of the universal (being a) statue of such and such a shape” (Lowe, 1998, p.222). This means that having a property (for example, this-circularity) is not the form of the statue. Moreover, in the Four-Category Ontology, there are two kinds of universal; substantial and non-substantial. So, the form of statue is the statue itself which is an instance of a substantial universal.

Next, Lowe discusses the relationship between *properties* and forms from another approach. He suggested that the question ‘what is it’ corresponds to the form of a substance but the question ‘how is it’ addresses the features or properties of something. A statue is what this-statue is, or in Lowe’s own example, a horse is what Dobbin is (Lowe, 2013, p.197). However, the circularity of this statue or the whiteness of Dobbin can be answers for the question ‘how is it’. Lowe, like Aristotle, divides predications into two kinds; essential and accidental predications. The former means that some features of an object are necessitated by their forms, for example, Socrates is a biped-animal, *necessarily*. However, the latter kind of predication is only accidental, for example, Socrates’s whiteness. Although having a colour is identified as an accidental feature, Lowe says that a particular object necessarily has a colour. And he reached a conclusion about the problem of the forms/features relationship; “an individual substance possesses a certain *form*, which constitutes its *essence*, from which ‘flow’ by necessity certain features of the substance, which are its *properties* in the strictest sense of the term” (Lowe, 2013, p.197).

Another question which arises here is what is the relation between an entity’s form and its essence? Does an entity have an essence independently from its form? This is one of the Aristotelian

problems in *Zeta* which he discussed on Z6.⁷⁹ Aristotle argues that an entity and its essence should be identical, for example Socrates cannot be something else rather than *being*-Socrates. This is so because *essence* by definition is what that entity is. Aristotle also claimed that if someone would like to know about an object, its essence should first be known. Lowe writes that;

“Knowing an entity’s essence is simply knowing *what that entity is*. And at least in the case of *some* entities, we must be able to know *what they are*, because otherwise it would be hard to see how we could know anything at all about them. How, for example, could I know that a certain ellipse had a certain eccentricity, if I did not know what an ellipse *is*? In order to *think* comprehendingly about something, I surely need to know *what it is* that I am thinking about.” (Lowe, 2013, p.203)

In the light of these considerations we arrive at three points. First, the Four-Category Ontology could be a potential approach to the problem of inconsistency between the *Categories* and *Zeta* by suggesting that both entities (concrete particulars and their forms) are analysed as substances, since the ‘way’ of identifying a concrete particular is possible by favour of its own particular form. With this approach, we could give a substantial role to both this particular statue and its shape (its particular form), as Aristotle stated in both the *Categories* and *Zeta*. Lowe explicitly states:

“... then we do well to identify an individual concrete thing with its own particular substantial form. This then will enable us to accept both Aristotle’s view of the *Categories* that individual concrete things are the primary substances and the view ... in the *Metaphysics*, that particular substantial forms are the primary substances. For according to my suggestion, these two doctrines exactly coincide.” (Lowe, 1998, p.222)

Does this mean that Lowe is saying that a concrete particular has a specific form, which is different from other concrete particulars? In other words, could it be said that particulars are discernible by their forms? In a sense, yes. All particular entities have their own forms, and their forms are the principle of identity for their particularity. However, in another sense it is asked that is it enough to say that all particular concretes have their own particular form to claim that forms are particular?

⁷⁹ “Each thing then and its essence are one and the same in no merely accidental way, as is evident both from the preceding arguments and because to *know* each thing, at least, is to know its essence, so that even by the exhibition of instances it becomes clear that both must be one” (*Met.* 1031b19-22), and see, Chapter 1.

Lowe himself said no, since all particular forms instantiate a universal entity, by another usage which he took from John Locke, *sortal terms*. For example, man is a sortal term and, in this case, it is a substantial-universal, or kind, or secondary substance using Aristotle's wording (such as, Socrates is an instance of this substantial-universal-e.g. man. His form is the particularized form or particular form). Finally, using this approach Lowe brought a new possible solution to the problem of particular properties. In other words, a particular concrete object has its own particular properties which instantiate a universal term, for example; "a particular electron could be taken simply to be a particular instance of the substantial universal (being an electron)." (Lowe, 1998, p.224)

Furthermore, form has another important role in Lowe's ontology. He explicitly claimed that form is the principle of *individuation* and *identity* rather than the matter of an object. The problem of individuation will be discussed in the final chapter in more detail, but it might be useful here to refer to it and to the principle of identity. The principle of individuation is what is to count as one instance of a given kind: for example what is to count as one tiger or one ship? On the other hand, the principle of identity tells us what makes the identity or diversity of items of a given kind. For example, the principle of identity shows what constitutes the identity or diversity of this ship in comparison with that ship, and according to Lowe, their *form* is what individuates such things since their form determines the status as being a single thing of a certain kind. Although it is claimed that what individuates and identifies is the matter of the object, Lowe suggests that it is the form of the concrete objects. For example, the form of a tiger is the thing which determines the tiger's identity over time, and again its form separates a specific tiger from others at the same time.

Having said that Lowe's ontology admits both universals and particulars, and this ontology allows both of the conclusions of Aristotelian substance theory(ies) in the *Categories* and the *Metaphysics*. In other words, it is an ontology which claims that primary substances are particular concrete things, or it is said that their forms are, since they can be identified, individuated and defined by their forms, and he said that "An important aspect of my position is my identification of individual substances with instances of substantial universals, which can be seen as tantamount to identifying an individual substance with a particular substantial form" (Lowe, 1998, p.233).

What can be said about the status of form in the Four-Category Ontology, and how can this new approach support the main thesis of our work? Lowe says that in the *hylomorphic* doctrine of the

Metaphysics, particular substances are taken to be combinations of matter and form, and in this doctrine, matter seems to have a specific role in the *particularity* of particular substances, but the form is understood as universal. This interpretation of *hylomorphism* causes two difficulties; the first is that if we take form as universal, how it is possible to combine a universal form and a particular piece of matter?⁸⁰ For example, if we say that Dobbin is a combination of the form of the horse and some matter, it is pointless to say that the form is universal in this case. Lowe explicitly writes that:

“There is a very important ontological consequence. This is that primary or individual substances have forms only and precisely in the sense that they are particular instances of forms. Dobbin is a particular instance of the substantial kind or form horse (...).Dobbin must certainly have material parts, but in no sense is he a combination of anything material and the universal form in the question. What I am saying is that individual or primary substances are nothing other than particular forms, or form particulars – particular instances of universal forms.” (Lowe, 2010, p.72)

Another difficulty is that saying that particular substances are the combination of form and matter makes these two entities *incomplete*. In other words, form and matter need each other to be a particular entity. Because of the ambiguity of these two problems, Lowe says that the *hylomorphic* doctrine is not useful for resolving the tension between particularity and universality for Aristotelian forms. To solve this, he suggested that all particular substances possess a specific, or it is said, particular form, which instantiates the substantial universal forms and they are the primary substances in the doctrine of *hylomorphism*, and the particular concrete objects can have the role of being substantial in the doctrine of the *Categories*, or the *four-fold ontology*.

In this chapter, the status of form has been analysed by the Four-Category Ontology. Although Lowe’s approach was inspired by the doctrine of the *Categories*, he said that this ontology includes the form(s) (an entity of the doctrine of *hylomorphism*), unlike the matter. In his ontology, forms are conceived as both universal and particular. Lowe combines both of these doctrines in his new approach even though Aristotle never mentioned anything about matter and form in the *Categories*. Second, another old problem has been discussed which is whether essences are the same as forms or the objects. Finally, at the conclusion, it is claimed that forms are both universal

⁸⁰ In Zeta, Aristotle says that primary beings have matter and form, and as concrete objects, they are combination of their matter and their form. Historically, this is called as *hylomorphism*.

and particular. Particular forms are primary substances as Aristotle stated in *Zeta*, and they are instances or universal forms using this new approach. As I have discussed, form is one of the entities in the main problem. It is useful to discuss the status of particulars in the Four-Category Ontology.

3.3. Particulars in the *Four-Category Ontology*

Whether Aristotelian forms are particulars or universals is the main problem addressed in this project. The main argument for this problem is that Aristotelian forms are both universal and particular, since particulars and universals are **mutually-dependent** entities in Aristotle's ontology. I am supporting this idea with a neo-Aristotelian substance theory: namely, the Four-Category ontology. During Chapter 3, the three main concepts of the problem – form, particular and universal – have been discussed, by outlining some of the main characteristics of the Four-Category ontology. In the present chapter, I analyse the status of particulars in the Four-Category Ontology, by asking some critical questions, such as: what is the status of particulars? What makes a particular a particular, and what makes a particular substantial? Why does the Four-Category Ontology have two kinds of particulars? Before discussing these questions, firstly, it is useful to sketch the relationship between substance and particulars in Aristotle's substance theory.

In Aristotelian ontology, particulars take priority. Both in the *Categories* and the *Metaphysics*, this is expressed explicitly by Aristotle himself. First of all, in the *Categories*, Aristotle says that concrete particulars are the primary substances, since they are neither said of a subject nor present in a subject (*Cat.* 2a13). Secondly, another important feature of particulars in terms of why they are basic, ontologically, is that all accidental properties and universals (e.g. secondary substances) *depend on* particulars. In other words, particulars are independent-basic entities. Thirdly, in the *Categories*, he says that the term *individual* corresponds to something that is *one in number*.⁸¹

These three points, on particulars, can be found in the *Metaphysics* as well. As mentioned before, there is no independent theory of particulars and universals in his ontology; he describes

⁸¹ “Every substance seems to signify a certain this. As regards the primary substances, it is indisputably true that each of them signifies a certain this; for the thing revealed is individual and numerically one” (*Cat.* 3b10).

substances with these concepts. Firstly, in *Zeta*, he says that *separability and individuality*⁸² chiefly belong to the substances (*Met.* 129a29). This feature of substances corresponds in that it is not *present in* any other subject, since it is separable; or, in other words, it may be said that it is *independent*. Again, in the *Metaphysics*, he writes, “It would seem impossible for a substance to be separate from what it is the substance of.” (*Met.* 991b) So far, it is said that particulars are primary substances, since they are separable and they are the ultimate subjects for all other predications. This makes them no longer *said of* anything else, therefore they are whatever being *a this* is (*Met.* 1017b25).⁸³ In this definition of substance, it can be said that substances are particulars and they are subjects of predications, and this definition makes us turn to the *Categories*. Therefore, in the *Categories*, Aristotle maintains that particulars are the bases of reality, and all of the rest - universals and other properties - depend on their particular substances. So, substances are particulars, and they are the primary principles of being. However, universals could be *secondary*.

Firstly, and most importantly, in Aristotelian ontology particulars enjoy priority over universals. In other words, particulars can exist *independently* of universals or non-substantial categories-entities, while universals and non-substantial entities must depend on particulars for their existence. This is what Aristotle explicitly claims in the *Categories*, and this ontological priority for particulars, or ontological dependence for universals, is called as **asymmetrical relation**. Therefore, universals *depend on* particulars, but not *vice versa*. According to this asymmetrical relation of universals and particulars, Aristotle himself has drawn a picture of dualism between these two entities, and this picture does not seem very different from the Platonic view of universals. Moreover, my essential interpretation claims that there is no such kind of sharp dualism

⁸² Aristotle mainly claims that substances should have two main characteristics: the first is *individuality* and the second is *separability*. Moreover, he claims that matter should be ruled out of substance-hood, because of its deficiency of these two characteristics. Individuality corresponds to numerically being one. However, what Aristotle means by separability is quite ambiguous. The main approach on this point is what he means by separability is ‘being able to exist independently’. Spellman (1995, p.7) writes that “when Aristotle talks about separation, what he means is independent existence. In other words, when he says that substances must be separate, by separation Aristotle in fact has in mind the ontological correlate of definitional separation.”

⁸³ This shows that Aristotle defines particulars and substances together in his ontology, this is the reason that I have been writing that there is no explicit and separate theory on particulars, and dependently, universals. The picture has been drawn on particulars by Aristotle, cannot be taken separately from what he says on primary substances. In his corpus, there is no any explicit statement or definition on particulars without his analysis of substances, except *De Interpretatione*, as aforementioned.

between particulars and universals in Aristotelian ontology, since what the most knowable and what the most real is are **mutually dependent** entities.

Secondly, in this point, the question arises that although the relation of *said of* between particulars and universals explicitly shows that particulars take ontological priority over universals, as mentioned in the previous chapter, how could it be claimed that the relation between them is not asymmetrical but is **symmetrical**? The *said of* relation is the most important factor which distinguishes particulars and universals in the ontology of the *Categories*. Moreover, this division relies on the description of universals and particulars given in *De Interpretatione*. According to the former, universals are *said of* or/and *predicated of* a subject, but particulars are not (the difference between *said of* and *predicated of* has been shown in the previous chapter). In addition, in the *De Interpretatione*, universals are defined as naturally predicated entities; they can be *predicated of* many items, but particulars cannot (*De. In.* 17a48). These descriptions of particulars and universals signify the conclusion that particulars are ontologically prior to all other things, hence the relation between them is **asymmetrical**.

Next, according to this interpretation, it seems that there is no room to claim that particulars and universals are **mutually dependent** entities. The reason for this is that *three* features of particulars are determined by Aristotle and his terminology in the *Categories*. A substance, according to the definitions in the both the *Categories* and the *Metaphysics*, must be *something determinate*, and he claims that it must be a *this-something* (*Met.* 1029a28). Furthermore, in the *Categories* he calls primary substances particulars (e.g. Socrates), and his language indicates that these kinds of substances are already *primary*. These factors suggest that particulars or primary substances are ontologically independent from and prior to universals.

Another question arises at this point, which is that whilst Aristotle writes that substance should be something determinate, what makes this particular thing something determinate? This question addresses the main focus of this project as well. Obviously, Aristotle tries to find a soluble answer for this question. As a conclusion, he says that **the definition is of universals**, but the primary being, or *this-something*, is particulars. So, according to my interpretation, I claim that secondary substances (in the *Categories*) or the species of particulars make the primary substances or particulars something **determinate in definition**. Again, the species or class to which a particular

belongs, or falls under, can distinguish a particular from other particulars. On this issue, Owen (1965) writes that “Aristotle’s most powerful and influential analysis of substance - that is, of the general nature of individuals - begins by requiring that a substance be both a *this* and what is it, *tode ti* and *ti esti*” (*Met.* 1028a11). A *this* (a particular entity) is always a member of a class, rather than against the class. The question “What is it?”, on the other hand, introduces a classification, or a definition of something (Lowe, 2006, p.2).

This is the reason that the argument of the relation between particulars and universals is **asymmetrical** could be rejected. Obviously, claiming this means that the relation is **symmetrical**, or, in other words *particulars are dependent on universals* as well. By definition, being a particular entity requires being a particular entity of a certain species or class (Lowe’s language says that all particulars are instances of a universal, and this will be made clear in the next chapter). It is the general assumption that particulars and universals are **mutually-dependent** entities, and it is claimed that Aristotelian substances are both universal and particulars. As a supporting argument I discuss Lowe’s ontology, which clearly shows this **mutually-dependent** relation between particulars and universals. Before doing this, it is useful to analyse how Lowe describes particulars in his ontology.

First of all, Jonathan Lowe claims in his ontology that according to the *four-fold* ontology of the *Categories*, Aristotle divides particulars and universals into the categories substantial and non-substantial. However, in the second chapter of the *Categories*, Aristotle only names substantial particulars as primary substances, and in Chapter 5, he calls substantial universals as secondary substances. He never mentions non-substantial particulars and universals, although some descriptions in his corpus signify these entities. So, the first important feature of the Four-Category Ontology is that there are two different kinds of particulars. In addition to this, Lowe claims the same features, mentioned before, for particulars, but he rejects the traditional interpretation about the relation between universals and particulars. This means that he claims there is no **asymmetrical relation** between particulars and universals.

As has been mentioned, particulars entities have been defined by Lowe as basic entities in his ontology. Substantial-particulars have the same role in this new ontology as they do in the *Categories*. They are, by definition, neither *said of* a subject, nor *in* a subject. However, they are

basically instances of some entities which are *said of* subjects, e.g. universals. In other words, particulars are defined as the basic entities of a class.⁸⁴ The relation between these entities will be discussed, but it is useful to consider the differences between substantial and non-substantial particulars. What Aristotle defines as such entities being in a subject, but not *said of* a subject, are named by contemporary thinkers as non-substantial particulars, or property instances e.g. *the redness* of a rubber ball. As Aristotle writes, these entities are dependent on the basic entities, namely substantial particulars. “Property instances or non-substantial particulars are ontologically dependent entities, depending for their existence and identity upon the individual substances which they characterize, or to which they belong.” (Lowe, 2006, p. 27)

Secondly, it is a general claim that Aristotelian substance theory has a wide view of *substancehood*. What this means is that according to this theory both animate and inanimate objects can count as substances. Although in the *Categories* Aristotle never mentions any inanimate object as a particular instance of substance, his corpus has many known examples of this issue, for example a bronze statue. In particular, he discusses the status of inanimate concrete particulars in the *Metaphysics*, specifically in terms of the problem of form and matter. However, when he analyses the primary substances in the *Categories*, he always gives the same examples, e.g. Socrates. Contemporary substance theories, on the other hand, seem to accept that Aristotle’s substance includes all animate and inanimate concrete entities. It is useful, now, to discuss the status of particular entities in the Four-Category Ontology.

The most fundamental category of Lowe’s ontology is *objects*. He identifies objects as particular substances, and this corresponds to the primary substances in the *Categories*. As has been claimed, they are the basic entities, and according to Lowe they take priority over properties, by definition. Lowe writes that “objects are, in Aristotelian spirit, ontologically prior to properties, and it is the reason that they occupy a more fundamental place in the scheme of being” (Lowe, 2006, p. 75). However, Lowe claims that it is not enough to identify objects in his formal ontology, and he adds

⁸⁴ “Dogkind would not exist but for the fact that particular dogs, such as Fido, exist, and although it is very arguably true that Fido is essentially a dog, so could not have existed if dogkind is not existed” (Lowe, 2006, p.78). Aristotle called the species which individual substances belong secondary substances, reserving the term primary substances for the individual substances alone. And we could call the particular objects such as Fido as primary objects, and the kinds such as dog-hood as secondary-object (Lowe, 2006, p.78).

that objects have determinate identity conditions and are, by virtue of their unity, countable entities. Moreover, he claims that these features distinguish objects from other actual or possible property-bearers. In other words, he wrote that “what I am proposing to build into the concept of object is the idea of individuality” (Lowe, 2006. P.75).

Aristotelian ontology details three features of particulars: they are separable; they are one in number by definition; and they take priority over universals and properties. The relation between particulars and other entities has been described as **asymmetrical**. Lowe analyses particulars, or objects in his own language, through Aristotelian lenses. He determines objects’ three main characteristics.

Objects are:

- Individual
- Having determinate identity and countability
- Property-bearing entities (Lowe, 2006, p.76)

All objects are individual, which means that they are *one in number*. The second feature, in addition, signifies that all objects are separable, since all objects exist in *a particular space and at a particular time*. This feature makes them separable from both universals and properties and from all other objects. The final characteristic mentioned refers to their relation with properties. All objects have at least one instance of a property, in a specific time, but they can accept some contradictions at different times, as Aristotle writes.⁸⁵ There is another feature of particulars in terms of their relation with their substantial kinds, and the respective property instances-*modes*- that they have. These relations as they appear in the Four-Category Ontology will be discussed, but briefly Lowe (2006, p.77) summarises them thus: “particulars instantiate universals, but do not possess universals”. It is said that universals are *said of* particulars but are not *in* them. However, objects possess *modes* but do not instantiate them. It may be said that properties are *in* a subject,

⁸⁵ “It seems most distinctive of substance that what is numerically one and the same is able to receive contraries. In no other case could one bring forward anything, numerically one, which is able to receive contraries” (*Cat.* 4a10-13), and individual man- one and the same- becomes pale at one time dark at another. (*Cat.* 4a15).

but are not *said of* a subject, in Aristotelian wording. Particulars are not multiple locatable entities. For example, redness, or the property of being red, exists in its entirety in every spatial location that is occupied by red objects. Particulars are instances of universals, but do not possess universals. Objects possess properties, but do not instantiate properties (Lowe, 2006, p.77).

To sum up, the definition of substance in Aristotelian ontology cannot be discussed without reference to his description of particulars. On the other hand, in the Four-Category Ontology, particulars are substantial and they have mostly the same characteristics as Aristotle's identification of particulars. The Four-Category Ontology has some positive remarks for our problem. For example, in contrast to traditional interpretations, Lowe claims that the relation between universal and particular is **symmetrical**, rather than **asymmetrical**. This means, as I have argued, that universal and particular entities are **mutually-dependent** entities. Hence, there is no one-way dependency, as Aristotle writes in the *Categories*. Secondly, particular and universal entities have substantial roles in the Four-Category Ontology, since the former signifies *this-something* or something determined, and the latter signifies the answer to the question of what that determined particular thing is. Aristotle, as well, implicitly claims that substance has two main characteristics: *tode ti* and *ti esti*. Thirdly, according to Lowe's ontology, there are two different kinds of particulars; namely, substantial and non-substantial.

3.4. Universals in the *Four-Category Ontology*

One of the most fundamental distinctions in ontological debates is the distinction between universal and particular. This distinction has been discussed to determine the status of Aristotelian substances, and whether they are particulars or universals. In the general debate, some claim that only universals exist; some others, however, say that what exists is only particular entities. It could be claimed that both universals and particulars exist, but this view also has some disagreements within it. Also, it is, specifically, the same as the Aristotelian problem. It is claimed that Aristotelian forms are both universal and particular; it is obvious that this problem cannot be discussed without outlining the distinction between universals and particulars. According to Lowe, both universal and particular entities exist, and these entities are *substantial*. To spell out this idea, I am analysing three entities in the context of the main problem: **form**, **particulars** and **universals**

in the Four-Category Ontology. It is useful to discuss now the status of universals in this contemporary ontology.

Lowe says that everything that does or could exist may be categorised as an entity, and that all entities are divisible into either universals or particulars. Additionally, it is one of the main questions which arises in the Four-Category Ontology, whether one ontological category is more fundamental than another. In other words, how might ontological categories be related to one another, and, more specifically, which categories might have the strongest claim to being fundamental (Love, 2006, p.8). If all entities can be divided into either particulars or universals, how we could say that these entities are mutually irreducible, as Lowe claims. He says universals and particulars are mutually irreducible, and thus both of these categories are fundamental. This is discussed firstly by stressing the descriptions of particulars and universals. Secondly, in the Four-Category Ontology, Lowe's ontology includes two different kinds of universals and particulars (substantial and non-substantial), and after discussing the status of substantial universals, it is useful to mention non-substantial universals. Next, three reasons which are mentioned for defending the existence of universals in the Four-Category Ontology by Lowe will be outlined. These three reasons are listed as follows: individuality, instantiation, and the argument of the law of nature. Lastly, the *realism* of the Four-Category Ontology is discussed.

As mentioned previously, first of all, the most explicit distinction between particulars and universals can be named a *spatiotemporal account*. This means that particulars are distinctive in being individuated by their spatiotemporal location, and it is the reason that no two particulars can exist in exactly the same place and at the same time. Furthermore, this means that there is no single particular that can exist in two distinct places at the same time. "However, a single universal is capable of existing in two wholly distinct places at the same time, and any number of universals are said to be capable of existing in exactly the same place at the same time" (Lowe, 2002, p. 348). So, it is the general view that particulars are not *multiply localisable* entities. For example, Socrates and Callias cannot be in exactly the same place at the same time, and Socrates cannot exist in two distinct places at the same time. This is true as well for non-substantial particulars. For instance, the redness of a pen belongs only that particular pen; it is that pen's mode only, and not any other

pen's.⁸⁶ Moreover, universal properties or non-substantial universals can be occupied by particular entities; for example, redness, or the property of being red, exists in its entirety in every spatial location that is occupied by red objects. So, it is the view that being capable of existing in more than one place at the same time is the most distinctive feature of universals.

Additionally, instead of this differentiation, particulars and universals can be both substantial and non-substantial, according to Lowe's ontology, and all of these four entities are equally basic. The most fundamental entity is the category of particular substance, even though in another sense all four of our categories are equally basic. Moreover, another basic category is the category of **substantial universals** or substantial kinds -e.g. doghood-. All particular substances are instances of substantial kinds. Another basic category of universals is the category of properties and relations, or namely **non-substantial universals** (e.g. redness). On the one hand, particular substances in a certain sense are the most fundamental, but in another sense, all forms of Lowe's categories are *equally basic* (Lowe, 2006, p.21). So, the question arises that if all these entities are basic, what makes them fundamental, or what kinds of relationship do they have that they are all basic, and cannot have priority ontologically? The relationship between substantial particulars and substantial universals is called *instantiation*; for example, particulars instantiate universals, but do not possess universals (Lowe, 2006, p.77). It is said with Aristotelian wording that universals are *said to be* of particulars, but not *in* them. The relationship between non-substantial entities and substantial entities can be called *characterisation*; for example, particular-substantial objects have some instantiate properties (Lowe, 2006, p.77). It may be said that properties are in a subject, but not of a subject, in Aristotelian wording. All of these relationships is discussed in the next chapter.

On the one side of the distinction, Table 2 indicates the relation between particular and universal entities. The other side of the distinction Table 3 shows the relation between substantial and non-substantial entities. The Four-Category Ontology consists of four entities, which are two distinctions cut across each other.

⁸⁶ Whether particular properties exist or not has been discussed in the previous chapter, but now it could be said that Lowe accepts that they exist, and they called as non-substantial particulars.

Universal

Entities



Particular

Entities

Table 2. Instantiation The Relationship Between Particulars and Universals.

Substantial

Entities



Non-Substantial

Entities

Table 3. Characterisation The Relationship Between Substantial and Non-substantial entities.

Next, the main suggestion of the Four-Category Ontology is that form is conceived as both universal and particular. When it is accepted that objects are particular concretes or particular forms, and substantial kinds are universal forms, it is not wrong to say that particular forms and universal forms have the same relationship as all particular and universal entities, as mentioned above (*instantiation*).⁸⁷ Particular concrete objects have forms, and their forms are nothing other than particular instances of universal forms. Lowe explicitly claims that a form conceived as a type of universal is the secondary substance of the *Categories*, and he termed them substantial forms. A particular substance is an instance of a substantial kind; for example, Dobbin is a particular instance of the substantial kind or form *horse*, whereas Dobbin's whiteness is a particular instance of the universal colour or attribute *whiteness* (Lowe, 2012, p. 240). Kind is a substantial form; objects or particular substances are form-particulars.

Second of all, another important feature of universals in the Four-Category Ontology is that there are two kinds of universals. On this point, the question arises over why it is necessary to invoke two fundamentally different types of universals: substantial and properties or attributes. Lowe's ontology has three reasons for why he defends the existence of universals, and, further, why his ontology has two kinds of universals, namely individuation, instantiation and the argument of law. These three points will be clarified shortly, but first some features of non-substantial universals is analysed.

The question arises on this point: what are these non-substantial universals, and how can they be defined? Lowe identifies them as *ways of being*; with this identification, it could be obvious that they are not substantial. This definition shows that they are dependent entities; they have to depend on – at least – a particular object. For example, redness is a way of being, and it is one of the ways to describe a universal or particular entity. Moreover, as has been indicated in the table above, there are particular instances of these non-substantial universals as well, hence they are universal,

⁸⁷ In the following passage, which is cited in the previous section, Lowe accepts that primary substances are both concrete particular objects and their forms. "... then we do well to identify an individual concrete thing with its own particular substantial form. This then will enable us to accept both Aristotle's view of the *Categories* that individual concrete things are the primary substances and the view ... in the *Metaphysics*, that particular substantial forms are the primary substances. For according to my suggestion, these two doctrines exactly coincide" (Lowe, 1998, p.222)

and they should have particular instances. Lowe calls them properties *conceived as universal* and properties *conceived as particular*. He writes that:

“The thought, then, is that properties are *ways things are*. That being so, however, it is natural to try to distinguish between a ‘way’ two or more *different* things may be and a ‘way’ just one thing is—a ‘way’ that is necessarily unique to just one thing. And this would correspond, it seems, to the distinction between properties conceived as universals and properties conceived as particulars. According to this suggestion, the property of being red, for instance—assuming there to be such a property—is, when conceived as a universal, a way in which two or more different things may be coloured, such that, each of them being so coloured may be said to be coloured in the *same* way. And by ‘in the same way’ here is meant, quite literally, ‘in the numerically identical way’ (2006, p.90)

According to this passage and the example of redness, two or more different things, or entities, can be coloured in the same way. He says that *in the same way* means ‘in the numerically identical way’. For example, two different apples can be coloured in the same way; they both have the property of redness. In this case, this property could be located in different places, and this property, in this description, is conceived as universal. However, if I named the apples A1 and A2, and someone were to claim that there is no such a thing as having a property in a numerically identical way, is it possible to refer to the completely particular redness of A1? Lowe believes so. It is possible to divide properties into universal and particular properties, hence there is both a property of redness, which is shared by both A1 and A2, and there is the particular redness which A1 and A2 have separately. Lowe (2006, p.91) explicitly writes that: “I believe in the existence of properties, conceived as ‘ways’, in both of the foregoing senses—that is to say, I believe in the existence of both *universal* ‘ways things are’ and *particular* ‘ways things are’. The former I simply call *properties*—thus reserving the term ‘property’ henceforth for a certain type of universal—and the latter I call *modes*.”

Lowe describes two kinds of universals, as I have shown above. These are called kinds and properties, and they are both universals, since they can be instantiated by particulars, and they do not have spatiotemporal locations. These two characteristics can be divided into universal entities and particular entities, but another question arises as to how we can distinguish these two kinds of universal from each other. Lowe says that kinds are universal, but they are not a property, since a property cannot be *what a particular is*, and they cannot be kinds. A property can be an answer only to the question of *how a particular is*. He writes, “If the flower is a rose then it is an instance of the kind *rose*. Kinds are universals but not properties, where the latter are understood, as I have

proposed as being, ways things are. Being red is a way a flower may be; but being a rose is not a way, it is what certain flowers are. Kinds are substantial universals.” (Lowe, 2006, p.92)

Third of all, it has been mentioned before that the Four-Category Ontology accepts that universals exist. Because of this, it can be called a *realist* ontology. Moreover, according to Lowe, not only are there substantial universals, but also non-substantial entities or properties are universals. On this point, it is useful to analyse some reasons why this ontology consists of universal entities, and how we can describe Lowe’s realism. Lowe listed three main reasons for defending universals, namely individuation, instantiation and the argument of law. First, Lowe says that the kind of a particular has an important role in the determination of that particular’s individuality, since kinds, only, can determine the identity conditions of the particular substances that fall under them (Lowe, 2010, p.73). For example, both Socrates and Callias are instances of the human-kind. In other words, their humanity is the first determinative feature of their identity. When someone asks what Socrates is, the answer will be that Socrates is a human being, and the same answer is true for Callias. The problem of individuation and the question of how two particulars can be separated from each other *by their kinds* is discussed in Chapter 6. However, on this point Lowe only tried to show that for predicable entities both substantial and non-substantial universals exist, and the main criteria for separating these universals is the identity condition. Kinds can determine the identity of their instances, rather than properties. For example, Dobbin and Duldul are white, and they are both horses. Their kind (horse) can determine the identity conditions of the particular substances rather than their property (whiteness).

The ontological relations between primary substances and properties, and between primary substances and their substantial kind, is different. In the case of Aristotle’s language in the *Categories*, both secondary substances (kinds) and properties are ontologically dependent on primary substances. However, secondary substances do not *inhere* them. These ontological relations can be discussed as a problem of kind-property instantiations. In the case of kind instantiations, on the one hand, Loux (2008, p.161) writes that “there is no distinction between the objects which exhibit a universal and the various instantiations of that universal. The individuals who exhibit the universal, man, just are the instantiations of that universal, so that in the case of substance-kinds, there is no alternative to constructing instantiations of each universal as

numerically diverse”. On the other hand, particular substances inhere property-instances, or modes; for example, Socrates’ whiteness.⁸⁸

According to Lowe, another way to draw a distinction between universals and particulars is to do so in terms of the formal ontological relationship of instantiation (Lowe, 2010, p.77). This relationship, briefly, means that any particular must instantiate some universal, and any universal must at least be capable of being instantiated by some particular. In terms of the relationship of instantiation, particulars just are instances of universals, and universals are entities that have, or at least can have, instances. Moreover, Lowe says that “instantiation is a way of distinguishing universals and particulars, which implies that the distinction is not only mutually exclusive but also exhaustive”. (Lowe, 2010 p.77). So, it could be said that in his ontology particular entities are instances of a kind, necessarily, and this is another reason for the acceptance that universal entities, or at least kinds, exist in this ontology. If someone says that particulars cannot be instantiated, since somehow there is nothing in the lower-degree of them, but universal entities should have at least one instance, this also means that there is no such a thing as uninstantiated universals. This will be clarified shortly.

The third reason for defending the existence of universals in this ontology is the argument of law. Lowe claims that in his ontology, universals must be included as fundamental in order to account for the ontological status of natural laws, and he writes that:

“I consider that we can only understand laws properly if we recognize as ontologically fundamental the distinction between substantial and non-substantial universals. A law simply consists in some substantial universals or in two or more kinds being characterized by some non-substantial universal or property. For example Planets move in elliptical orbits. In this case, one or more substantial kinds is or are characterized by some property or relation.” (Lowe, 2006, p.30)

This means that in the case of the Four-Category Ontology, laws consist of the *characterisation* of substantial universals by non-substantial universals, or in the holding of relationships between two or more substantial universals. For example, benzene is characterised by burning, and water and common salt are related by dissolving. It is said that benzene burns and water dissolves

⁸⁸ The ontological relation, exemplification, between objects and property (e.g. Socrates and whiteness), is discussed in Chapter 4.

common salt. In this view, laws involve universals and sometimes involve relationships between universals (Lowe, 2006, p.131). So, it is the claim that natural laws consist of some universal entities, and to understand and analyse these laws, it is necessary that to accept such an ontology involves universals, even both kinds of universals.⁸⁹

So far, the status of universals in the Four-Category Ontology has been analysed, along with the reasons for defending the existence of universals in an ontology. The most explicit feature of universals is that they don't have a spatiotemporal location. This means that a universal does not have to exist elsewhere, because it does not have a location in space. It just has to exist, but without any **spatial determination**. Its manner of existing is *immanent* rather than *transcendent*. In other words, it is the first reason to claim that there can be no uninstantiated universals. Secondly, as mentioned above, what distinguishes universals from particulars is that **universals can be instantiated**. Every particular is just an instance of one or more universals, and this is another reason to claim that universals are immanent. So, this could be summed up briefly as follows: universals exist, and there are two kinds of universal in the Four-Category Ontology. However, they are not **spatiotemporally located**, and they do not literally exist in the same place and at the same times at which their particular instances exist (Lowe, 2006, p.158). This is the reason why there are no uninstantiated universal entities, and they are immanent.⁹⁰

One of the universal entities are kinds, and kinds are essential to the substances that fall under them – they are what Aristotle called *secondary substances*. In this case, it could be outlined that Lowe is an *Aristotelian Realist*, or immanent realist, with regards to the status of universals. He holds the idea that while they are **multiply exemplifiable**, they exist in their instances and are contingent upon the existence of their instances (Hoffman, 2012, p.151). According to immanent realists, the properties of concrete objects are ingredients of those very objects, whereas according

⁸⁹ Universals are the object of laws of nature in Lowe's ontology, and they are object of the knowledge and definition in Aristotelian ontology. The correlation between two ontologies and the problem of knowledge will be mentioned in Chapter 5.

⁹⁰ "Some philosophers attempt to characterize it (the particular-universal distinction) in spatiotemporal terms, by saying that universals are whereas particulars are not, multiply locatable entities." (Lowe, 2006, p.76). As an immanent realist, according to Lowe, the only way to claim that universals are multiply locatable entities is by saying that universal entities exist in their entirety in every spatial location that is occupied by their particular instances. However, Lowe writes that it cannot be satisfactory to define the distinction between universals and particulars in spatiotemporal terms. He claims that the distinction between universal and particular is most satisfactorily captured by appealing to the concept of instantiation (Lowe, 2006, p.89).

to transcendent realists⁹¹, these properties are separate entities to which objects stand in some special relationship of exemplification. What Lowe means by properties is not only features such as redness, but also forms or kinds such as humanity (Lowe, 2012, p.230).

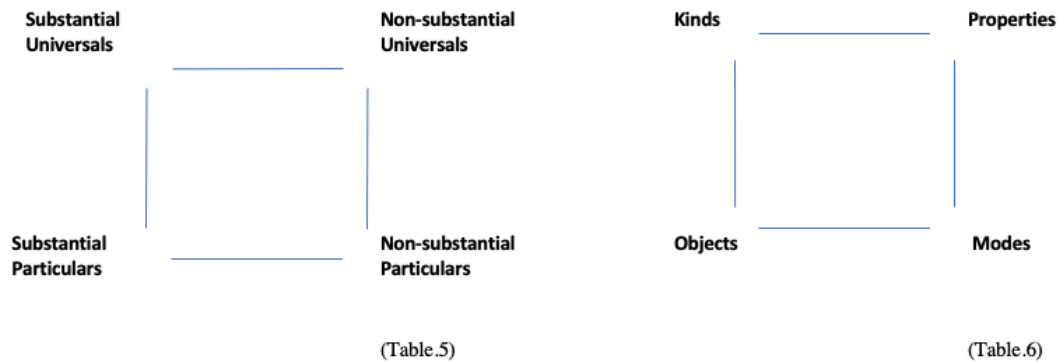
Now, we have a general frame for the Four-Category Ontology as a potential suggestion for our main problem (whether Aristotelian forms are universals or particulars), and a claim about this problem (that Aristotelian forms are both universals and particulars). The Four-Category Ontology can be a potential approach for this problem, since it is different from some traditional metaphysical approaches. What this means is that according to some ontological approaches, entities can be divided and analysed under only two categories: on the one hand, substance and properties; on the other hand, particulars and universals. However, Lowe (2006, p. 58) writes that:

“It is my view that we do indeed need to endorse both distinctions and that they should be reflected in a perspicuous logical syntax. I consider that the *two distinctions cut across one another, serving to generate four fundamental ontological categories*. This is precisely the *Four-Category Ontology* (as I call it), that we find hinted at in the beginning of Aristotle’s *Categories*, perhaps the most important single text in the history of ontology.” (Italicised by myself) (Table 4, 5 and 6)

	Substantial	Non-substantial
Universal	<i>Kinds</i>	<i>Properties</i>
Particular	<i>Objects</i>	<i>Modes</i>

Table 4. Four-Category Ontology I

⁹¹ “Transcendent Forms are different than immanent forms, they are theoretical entities, standing apart from the ordinary world, postulated in the same general sort of way that atoms or genes were postulated, to explain certain phenomena. The main problem of this view is that the relation between particulars and universal forms. What is the nature of this relation? Plato on his *Parmenides* suggests that this relation is participation or imitation” (Armstrong, 1978, p.66).



Instantiation: The relationship between particulars and universals.
 Characterization: The relationship between substances and non-substances.

Table 5-6. Four-Category Ontology II

Moreover, this is the reason that we can classify entities under the four categories, but the relationship of these categories is quite critical to understanding how this ontology could be a potential approach for my main argument. It is claimed that Aristotelian forms or substances are both particular and universal, and Lowe says that in his ontology there are both substantial particulars and substantial universals. In his ontology, Lowe refers to substances (objects) and modes as particulars, and on the other hand he calls kinds and attributes universals. Furthermore, he says that there is not really an ontological category of particular and universal, because there should be a commonality between the existence and identity conditions of the members of a genuine ontological category. The notions of particulars and universals are not to be categorical but trans-categorical notions, like the even more general notion of entity (Lowe, 2006, p.110).

To sum up, the Four-category Ontology has three main characteristics. First, such an ontology includes property-instance; in other words it claims that there are particular properties or modes. Secondly, there are two levels of distinction between substantial and non-substantial entities: the

level of universals, and the level of particulars. This means that both particular entities and universal entities have substantial roles. Lastly, as per the second point, such an ontology includes universals at two levels: substantial and non-substantial. According to the Four-Category ontology, not only some particular, but also some universal entities are substantial, because of their ontological relation, i.e. **instantiation**. For example, particular forms (or particular objects, e.g. Socrates) are instances of universal forms (e.g. man), and universal forms are instantiated by particular forms. Moreover, as I argue, this ontological relation makes these two entities mutually and necessarily dependent on each other. In other words, as I mentioned, their ontological dependency is identified as symmetrical rather than asymmetrical. At this point, it is useful to discuss the ontological relationships between these four categories to see how both particulars and universals are really substantial.

Chapter 4 - Ontological Relations in the *Four-Category Ontology*

I discussed so far how the status of Aristotelian substances is identified as both universal and particular. The main supportive idea of this claim is the ontological relationship between universal and particular entities, by claiming that it makes them *mutually-dependent*. This means that in Aristotelian ontology there are substantial universals and substantial particulars, which are instances of substantial universals. It has been underlined before that this does not mean that Aristotle *explicitly* claimed that there are *two different kinds* of substances, one which is universal and another which is particular. On the one hand, for example, Socrates has his own particular substance, and this particular form is an instance of a kind, whilst on the other hand there is a human being, which is the answer to *what Socrates is*, exactly. So, it is claimed that particular and universal entities are substantial.

Why does this not mean that there are *two kinds* of substances in Aristotelian ontology, but universality and particularity belong to the substantial entities? One of the reasons why, according to immanent realism, is that there are no un-instantiated universals. In other words, it is impossible that universal entities can be separated from their entities or instances, existentially speaking. So, if it were true to say that there are two kinds of substances, one of which is particular and another which is universal, that could be wrong *in definition*. On the other hand, it is the main claim of Aristotelian realism that this impossibility makes particular substances prior to universals. I strongly agree with the claim that there are no un-instantiated universals, and all universal entities depend on their instances. However, I claim that the main problem at this point is what kind of relationship substantial universal and particular entities have, and what kinds of *ontological dependency* particular substances and universal substances have.

As aforementioned, I suggested that universal and particular entities are *mutually dependent* on each other, and the reason for claiming this is that this relationship, which is named *instantiation*, makes them substantial. The main theme I wish to put forward in this chapter is how this relationship makes these particular and universal entities substantial and *mutually dependent*. In other words, how a particular entity, e.g. Socrates, and its kind, which is instantiated by Socrates, e.g. a human being, are substantial.

According to traditional and contemporary interpretations, the relationship between universal and particular can be identified in different senses, as has been discussed in the previous chapter. The former claims that there is an **asymmetrical relationship** between universal and particular entities. This means that a universal entity ontologically depends on its instance, but not *vice versa*. In other words, particular entities do not have to depend on their kinds. This interpretation is obviously the main conclusion of the Aristotelian ontology, since, as he mentions, particular entities are *more real* than universal entities because of this **asymmetrical relationship**. The definition of primary substances in the *Categories* explicitly addresses this result, because “they are neither said of a subject nor in a subject” (*Cat.* 2a13); this means they are independent entities and are more real than any other kinds of entities (e.g. non-substances entities, or substantial universals). I strongly disagree with this interpretation, since I believe that the dependence is **symmetrical in a sense**, and this relationship makes both universal kinds and their instances substantial. According to Lowe (2009, pp. 162-163), this is summarised as follows:

“I should stress that my ‘Aristotelianism’ does not involve the notion that individuals or particulars are in any sense ‘more real’ than sorts or kinds, or that they somehow enjoy a more fundamental species of existence – for ‘exist’, I believe, is perfectly univocal. Individuals may indeed be ‘ontologically prior’ to the sorts that they instantiate, in the sense that the existence of the individuals *grounds* the existence of their sorts, but not *vice versa*. But we can acknowledge such ‘existential grounding’ while at the same time insisting that individuals are no less essentially individuals *of some sort* than sorts are essentially sorts *of individuals*. The notion of ontological dependency is a complex and multifaceted one, capable of accommodating *both* the thought that sorts are, in *one* sense, asymmetrically dependent for their existence upon their individual instances, *and* the thought that, in *another* sense, there is a symmetrical essential dependency between individuals and sorts.”

As Lowe outlines, ontological dependency is quite complex, but at this point it should be clearer, at least in terms of the dependency between substantial universals and substantial particulars. This is because the main focus in this chapter is analysing what is meant by *symmetrical essential dependency* and the relationship of *instantiation*. Moreover, other basic ontological relations in Lowe’s ontology is discussed and analysed, namely *characterisation* and *exemplification*. I mentioned how Lowe’s ontology includes four fundamental categories, and all of these categories have ontologically basic relations. In terms of the relationship of instantiation, it is useful to discuss two kinds of existential dependency in his ontology as well, namely *rigid existential dependency* and *non-rigid existential dependency*. In particular, non-rigid existential dependency has an important role to play in grasping the dependency of universals upon particular instances, for

example the dependency of universal dog-hood, or being a dog, upon individual dogs (Lowe, 2006, p.36).

Before discussing all these kinds of ontological relations and dependencies in this chapter, I still need to find some proper answers to some questions which have arisen. For example, why do we need four basic categories for the main *aporia* in Aristotle's substance theory? Why can some other ontological disciplines, which include one or two fundamental categories, not help to solve the problem? More specifically, do we really need to discuss modes (particular properties) or attributes (universal properties) for the main *aporia*? Lastly, and more importantly, how can we still claim that kinds are essential and fundamental categories? In other words, do we really need substantial kinds or substantial universals? To make all of these questions clearer, firstly, the one- and two-category ontologies and their main principles will be discussed, and then a general picture will be shown about how the Four-Category Ontology fits within the main *aporia*. Lastly, I will discuss the ontological relationships between these four categories, namely *instantiation*, *exemplification*, and *characterisation*.

4.1. One- and Two-Category Ontologies

At the beginning of his work the Four-Category Ontology, Lowe divides the task of ontology into two parts. One is wholly *a priori*, and the other one admits *empirical elements*. According to the former, the main problem of ontology is finding out of the realm of metaphysical possibility by asking the question, *what kinds of things could exist?* On the other hand, the main problem of the latter part of ontology, which can be called the empirical conditioned part, is establishing some scientific theories, by asking the question, *what kinds of things do exist?* in this actual world (Lowe, 2006, p.4). Moreover, in his system, it is said that the things which could or do exist can be called *entities* or *beings*, and this should be the most general category. So, the question arises at this point over what kinds of entities could or do exist. In other words, what are the ontological categories? Some debates in contemporary metaphysics have focused on three main candidates for this critical question, namely *a category of particular substances* or objects, *a category of universals*, and *a category of properties*.

One of the main question about these different entities is *which one is the most fundamental*, or could one or more of these entities be rejected? In other words, is it possible to reduce one of them

to another? According to the answers to these questions, many ontological systems have differed. Some claim that only one of these categories is fundamental and there is no need for any other categories, so naturally there is no need for any ontological relations. For example, the most popular category of ontology posits only properties, or particular properties, e.g. trope theory. On the other hand, another popular approach to ontology claims that there are only two fundamental categories, objects and properties, and generally some of two-category ontologies have focused on the distinction between particulars (and they generally take only objects as a particular entity, and reject the existence of particular properties) and universals, by rejecting either universal kinds or universal properties (e.g. Armstrong, 1989).

I divide these kinds of ontologies into two main classes. One is called *mono-categorical* ontologies (i.e. one-category ontology), and another is *poly-categorical* ontologies (i.e. two or more categories ontology). According to the former, there is only one fundamental category, and this category does not request any other category or, naturally, any relationship with them. The latter kind of ontology, however, implies that there are at least two fundamental categories, and that there are ontologically basic relations between these categories.

First of all, the most popular mono-categorical or one-category ontology is trope theory. According to this theory, there is only one fundamental ontological category, *that of tropes*. On the one hand, this theory rejects the *independent* category of particular objects (e.g. particular substances); on the other hand, it rejects universal properties. In terms of the first rejection, objects or particular substances are only bundles of tropes, which means that the existence of these particulars depends on the tropes which constitute them. The second rejection signifies that there are no universal entities, so some entities which are identified as universal properties are only reducible to classes of resembling tropes. For example, the property of whiteness is nothing more than the class of white tropes. In general, Keith Campbell (1990), who is one of the most well-known supporters of this theory, claims that only tropes are a fundamental category, and objects can be reducible to bundles of compresent tropes.

Moreover, this theory can have some advantages by solving two related problems in a sense. It merely claims that all properties are particular, so it can be assumed that there is no such thing as a universal property, and the problem of the relationship between objects and universal properties

can therefore be removed. For example, according to Paul (2014, p.32), we do not need more than one fundamental category to support the ontological structure of the world. The reason for his supportive approach to the one-category ontology is that these ontologies (especially trope theory) collapse the distinction between particulars and their properties. Furthermore, the one-category ontology includes only one fundamental category of intrinsic characters of qualities (e.g. modes), which means that everything there is, including concrete objects such as persons or animals, are only a quality, or a qualitative fusion, or a portion of the extended qualitative fusion that is the world as a whole. He calls his view the *mereological bundle theory*. Secondly, and much more broadly, the problem of the general account of ontological categories, specifically the problems of organisation and the relationships between entities, could be disappeared by the one-category ontology. “We don’t need a fundamental categorical division between particulars, individuals or space-time regions and their properties, nor do we need a fundamental categorical division between things, individuals or bearers and the qualities ‘borne’ by them” (Paul, 2014, p.33). This means that the one-category ontology rejects the fundamental division between objects and properties, and obviously it rejects any ontological relations such as *instantiation*.

Next, according to the one-category ontology, the biggest disadvantage of poly-categorical ontologies is that they sharply distinguish the nature of particulars and their properties, and obviously this distinction is based on Aristotelian ontology, especially the ontology of the *Categories*. This is so because, in the *Categories*, Aristotle distinguishes between objects and their properties *in definition* and the relationship between them, which is namely an **asymmetrical relation**. Objects or primary substances are neither said of a subject nor in a subject (*Cat.* 2a13). In other words, they are independent, and this is the reason why all particulars can be defined as substantial, or concrete objects. On the other hand, particular properties are the entities which are not said of a subject but are present in a subject (*Cat.* 1a22). For example, the whiteness of Socrates depends on the existence of Socrates; if Socrates did not exist, his properties could not exist as well.⁹² Trope theorists, however, reject this description of the relationship between substantial particulars and their properties, because this relationship makes properties less substantial,

⁹² “all the other things are either said of the primary substances as subjects or in them as subjects. So if the primary substances did not exist it would be impossible for any of the other things to exist” (*Cat.* 2a35)

naturally, hence they are dependent entities.

This is one of the most important reasons why any mono-categorical ontology cannot be Aristotelian and cannot be a possible approach to our main *aporia*. On the one hand, they would like either to eliminate universals altogether from their inventories of existence, or else to reduce them to particulars; because, as they claim, properties are themselves one and all particulars. For example, “the redness of any one red object is numerically distinct from the redness of any other, even if the two objects in question resemble each other exactly in respect of their colour” (Lowe, 2006, p.9). On the other hand, they claim that objects or particular substances are reducible to tropes, that is, to properties conceived as particulars rather than as universals, and, literally, the definition of Aristotelian particular substance is rejected by these descriptions.

Second of all, according to poly-categorical ontologies, there are at least *two* fundamental categories. For example, in the most well-known example of this, Armstrong (1989) favours a two-category ontology of particulars and universals. He claims that one category of particulars and one category of universals are the fundamental categories. On the side of particulars, he recognises the existence of particular objects, but not the existence of particular properties and relations (tropes or modes, e.g. particular redness, or particular circularity). On the side of universals, he recognises the existence of properties and relations (attributes, e.g. redness, or circularity), but not the existence of kinds. In his ontology, both objects and universals comprise fundamental categories, while he denies the existence of particular properties and kinds.⁹³ However, another two-category ontology is the ontology of Martin (1980). He says that both objects and particular properties are fundamental, and denies the existence of universals, by reducing them to classes of resembling tropes; again, in his ontology, the existence of kinds or substantial universals is rejected.

These examples of the two-category ontology do not include kinds; or, in other words, they reject the existence and the reality of *secondary substances*. For example, Armstrong claims that the thing which is capable of independent existence is only a *state of affairs*, namely a particular with a universal. Obviously, he accepts that universals exist, but neither species nor genus, or in other

⁹³ “Individual things will have properties and be related to each other. These properties and relations will be universal. Thus, in the case of properties, more than one thing can have them, and in the case of relations, more than one pair, or triple...of things can have them” (Armstrong, 1989, pp. 15-16).

words secondary substances, are included in Armstrong's classification of universals. There are only two kinds of universals in his system: properties and relations (D'Atri, p.191, 2014). I argue that this is one of the reasons why these two-category ontologies are not capable of being a potential approach for our main *aporia*. It is said that Aristotelian secondary substances in the *Categories*, and the essence or universalised forms in *Zeta* (even though Aristotle never used this phrase), signify the class of *universals*. Although Armstrong rejects the existence of secondary substances and takes into account particular substances in his ontology, I still believe that his two-category ontology is not enough to support our main *aporia*, which could be solved by the *four-fold ontology*, which includes secondary substances, or kinds, of the *Categories*, as mentioned before. Moreover, according to D'Atri (2014, p.195), in order to be neo-Aristotelian, it would be necessary to agree with Aristotle that the category of substance is ontologically fundamental, and is not reducible to any other category of being. Although Armstrong includes particular objects in his ontology, it is not enough to say that his ontology can be classified as neo-Aristotelian. Nevertheless, if we distinguish between a *strong* Aristotelianism, that accepts the theory of substance, and a *weak* Aristotelianism, that accepts Aristotle's immanent realism but tries to adapt it to the results of contemporary science, we can label Armstrong's realism as *weak* neo-Aristotelianism.

Third of all, as aforementioned, many debates in contemporary metaphysics have focused on mainly three entities, namely *a category of particular substances* or objects, *a category of universals*, and *a category of properties*. According to Lowe's position, these three categories are fundamental, additionally, he claims particular non-substantial entities (inherences) are fundamental, as well. This position holds that there are two fundamental categories of particulars (objects and tropes), and two fundamental categories of universals (kinds, whose particular instances are objects, and properties). Some important debates in metaphysics are mainly shaped in terms of the distinction between substance and property on the one hand, and particular and universal on the other hand. However, Lowe (2010, p.58) writes, "I believe that we need to find room in our ontology for entities belonging to each of these categories and that in no case are the entities belonging to one of them wholly explicable in terms of, reducible to, or eliminable in favour of entities belonging to one or more of the others. This is what it means, in my usage, to say that these categories are *fundamental*."

In his ontology, particulars and universals are located at the “same level”. This means that, as has been outlined, ontological categories are hierarchically organised, and the top-most category must obviously be the most general of all, that of *entity or being*. “Everything whatsoever that does or could exist may be categorised as an *entity*, and all entities are divisible into either universals or particulars” (Lowe, 2006, p.7). If we say that the entities of universals and particulars are at the same level, we need to say more about how they are at the same level, and more importantly how these traditionally distinct entities are fundamental, and this will soon become clearer. Moreover, Lowe’s ontology seems the best way to interpret the Aristotelian *aporia*; namely, whether substantial forms are particular or universal. On the one hand, his ontology contains universals, especially kinds, when we compare it with Armstrong’s view, and that is a plus. On the other hand, he rejects the trope theory, which claims that particular objects are nothing other than their properties. Lowe and Armstrong hold this idea of the ontological basicity of properties conceived as universal, which means that they both agree that attributes are one of the ontological categories. However, they diverge on the idea that properties can be understood both as universals and as particulars; only Lowe’s ontology contains both universal and particular properties. In this case, it is needed to clarify the question of why modes or particular instances of properties should be discussed for the *aporia*.

I discussed some of the main characteristics of one- and two-category ontologies, and why these ontologies cannot be used for our main *aporia* (whether Aristotelian substances are universal or particular), as well as my argument for this *aporia* (Aristotelian substances are both substantial and universals, because of their relationship and the principle of ontological dependence). Moreover, I outlined why Lowe’s ontology has positive aspects which support my own claim. Lastly, at this point, there are still two important problems, which I address before I discuss the ontological relations. The first is why we need modes or particulars instances in an ontological system, and the second is on the necessity of substantial universals or kinds.

Particular properties or modes can be defined as *features* or *aspects* of particular objects. This means that, for example, when we think of or perceive a particular object, such as a particular dog, Fido, its features may be realised through a mental process of abstraction, but the most important aspect of these features is that they are not independent from that particular object. I can grasp, for example, that Fido is white, and I have the idea of the *whiteness of Fido* dependently of Fido.

Surely, I had an idea of whiteness before I had perceived Fido, but the whiteness which belongs to Fido is the whiteness of Fido only. However, the problem which now arises is why we should believe in the existence of such entities as this particular whiteness of Fido, in addition to the corresponding universals, such as the property of being white. Lowe (2006, p.98) claims that one reason that may be offered is that universals require particular instances that cannot be *uninstantiated* universals, and yet particular objects, such as this dog, are not instances of properties, like whiteness, conceived as universals⁹⁴. This particular dog can only be *exemplified* as a property. In the Four-Category Ontology, he summarises this condition and the necessity for particular properties as follows.

“We can, it seems clear, *perceive* at least some of the properties of individual substances, such as an individual tomato’s redness. But perception, it would seem, is necessarily of particulars, since only particulars can enter into causal relations or literally possess causal powers—and perception necessarily involves a causal relation between the perceiver and what is perceived. Moreover, not only can we perceive at least some of the properties of individual substances, we can also perceive them undergo *changes* in their properties. When I see a leaf change from green to brown as it is burnt by a flame, I seem to see its former greenness go out of existence and its new brownness come into existence. But neither greenness nor brownness the *universals* are affected by such changes: they both exist before and after the leaf is burnt. So, it seems, it must be the leaf’s *particular* greenness and brownness that I see ceasing and beginning to exist respectively” (Lowe, 2006, p.23).

Lowe’s Four-Category Ontology includes both universal entities and individual properties. Secondly, and most importantly, his ontology has three different kinds of ontological relations between all four of these fundamental entities. This is the main reason why his ontology is a potential approach for my claim for the main *aporia*. The Four-Category Ontology is a constituent ontology, and a constituent ontology should include modes or particular properties, because these entities, by definition, are inferences of particular substances. Moreover, this kind of ontology should include essential or substantial universal entities as well. In this ontology, for example, being a dog is the essential part of a particular dog, e.g. Fido. In addition, the property whiteness is an essential part of the whiteness of Fido. This means that both particular substances and

⁹⁴ “If universals can exist uninstantiated, then they must apparently be *abstract* object. There is undoubtedly a problem in supposing that concrete objects, which exist ‘in’ space and time, could have as their properties only transcendent universals. For when we *perceive* an object, we perceive some of its properties—how else, in the end, could we know what properties objects have? ...transcendent universals cannot play the role in perception and causation that at least some of the properties of objects are required to play” (Lowe, 2006, p.98)

individual accidents are essential parts of them, according to any ontology with an Aristotelian spirit (Lowe, 2006, p.105).

Lastly, why does his ontology include two kinds of universals? Or, in other words, why do we need kinds, or substantial universals, instead of properties conceived of universals? The main reason for this is that, as mentioned before, particulars should be an instance of *some sort*. In this case, the question arises over what kinds of entities could be accounted for as sorts of particular objects. On the one hand, some claim that properties can be exemplified by particular substances, which means that these objects are instances of properties. For example, Dobbin is a particular object, and by definition, this particular object is an instance of a universal. Moreover, Dobbin has some properties, such as whiteness or heaviness, and that means that Dobbin is both white and heavy. If that claim is true, can we say that Dobbin is an instance of whiteness? In addition, if we can say it is an instance of whiteness, is it not natural to claim that Dobbin is an instance of heaviness as well (Lowe, 2010, p.78)? On the other hand, when we ask what a particular substance is fundamentally, or what Dobbin is, it will address the substantial kinds of that object; so, Dobbin is a horse, rather than whiteness or heaviness. Moreover, Dobbin is necessarily a particular and an instance of a universal entity.⁹⁵ This kind of universal cannot be a property which characterises Dobbin, since what Dobbin is essentially and fundamentally is an instance of a substantial universal kind; that is, a horse. It can be said that *kinds* are essential for Lowe's ontology, and for our main *aporia* as well, because of the relationship between them: instantiation. Lowe says, "The notions of an 'individual' and of a 'sort' or 'kind' are opposite sides of a single conceptual coin: each is understandable only in terms of the other. Individuals are necessarily individuals *of a kind*, and kinds are necessarily kinds *of individuals*" (Lowe, 2009, p.4). This is the reason that such an ontology, which is the main methodological source for the *aporia* and has the characteristics of neo-Aristotelianism, has to include kinds.

⁹⁵ "Individuals must always be thought of as being individuals *of some sort*. The criterion of identity associated with a proper name will just be the one associated with those *sortal terms* that designate the sort(s) or kind(s) which any individual capable of being referred to by that name instantiates. Thus, 'Aristotle', conceived as a name for a *man*, must have associated with it the criterion of identity which is also associated with the *sortal term*; man" (Lowe, 2009, p.30).

4.2. The *Four-Category Ontology* for the *Aporia*

The Four-Category Ontology has some positive aspects when I compare it to other kinds of ontologies (e.g. the one-category ontology), in the case of both neo-Aristotelianism and the main *aporia*. Before discussing the ontological relations and the problem of ontological dependency in the Four-Category Ontology, a review to be useful to see how an old-Aristotelian problem could be analysed with a new ontology, methodologically. Firstly, the main *aporia*, which is *whether Aristotelian forms are universals or particulars*, is summarised in Aristotle's *Metaphysics*. As aforementioned, this *aporia* includes three main entities (form, particular and universal) and the relations among them. These three entities and their ontological relations as shown in the *Categories* will be discussed, and I then show how this historical problem and its concepts correspond to the Four-Category Ontology.

Aristotle formulates the problem in *Metaphysics Beta*, in which he writes, “We must not only raise (these) questions about the *first principles*, but also ask whether they are *universal* or what we call *individuals*.” (*Met.* 1003a7). On the one hand, if they are universals, they cannot be substances, as he claims, because the term universal indicates not a *this* but a *such*, whereas the term substance should indicate a *this*, or, in other words, a particular thing.⁹⁶ On the other hand, the problem arises that if they are not universal but particulars, they will not be *knowable*, for the *knowledge of anything is universal* (*Met.* 1003a21). It is indicated that the main *aporia* is mainly focused on the tension between *universality* and *particularity*, or, in other words, *the most real thing* and *the most knowable thing*. Aristotelian descriptions signify that universals are the most knowable, since, as he writes explicitly, knowledge is of universal, and particulars are the most real entities. This is because, ontologically, the most real entity has **a condition** of being **independent** from any other entities (e.g. universals, or predications), and this condition fits only with the nature of particular entities. Moreover, the last and the most critical entity of the *aporia* is the *first principles*. It has been mentioned that Aristotle uses many concepts *synonymously* in his *Metaphysics*. However, he makes this point clearer in *Zeta*, in which he writes that substance is a *principle* and a cause (*Met.* 1041a7). So, it is not wrong to formulate the *aporia* as follows: whether substances are universal

⁹⁶ “I call universal that which is by its nature predicated on a number of things, and particular that which is not; man, for instance is a universal, Callias particular.” (*De. In.* 17a36).

or particular, or whether forms are universal or particular. The picture drawn up by Aristotle for the status of substances can be shown as follows:

<p>Substances are <i>particulars</i></p> <p>“A substance should indicate a this, and both <i>separability</i> and <i>individuality</i> are thought to belong chiefly to substance” (<i>Met.</i> 1029a28).</p>	<p>Substances are <i>universals</i></p> <p>“Knowledge of anything is universal, and substance is primary in every sense — in formula, in order of knowledge, in time. We know each thing most fully when we know what it is” (<i>Met.</i> 1028a32).</p>
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Table 7. Substance in the *Metaphysics*

The problem is whether forms are universal or particular, and according to the conclusion Aristotle draws in the *Metaphysics*, forms are *either* universal or *particular* (Table 7); they **cannot** be both. This is so because Aristotle indicates a sharp division between what is the most real and what is the most knowable, and there is no such substance that may be both knowable and particular. Moreover, some more questions are left unanswered because of this sharp division. For example, how is it possible to know particular entities? What is the relation between a universal entity (e.g. kind of humanity) and a particular (e.g. Socrates)? Obviously, the salient reason for these problems is that Aristotle does not mention any ontological relation between universal and particular entities in his *Metaphysics*, and this is the reason why I argue that the problem is solved by the *Categories* rather than his *hylomorphic* method in the *Metaphysics*, because he classifies some ontological relations between particulars and universals in the *Categories*.

First of all, according to this *hylomorphic* method, or indeed the general frame of *Metaphysics Zeta*, it can be seen what the Aristotelian approach is to the main *aporia*, and whether it is helpful or clear enough for the problem; in other words, how Aristotle analyses substances in *Zeta* is summarised as follows: (1) Aristotle lists four candidates for the question of what substance is,

namely: essence, genus, universal, and subject or substratum (*Met.* 1028b33). In addition, matter, form and the compound of both belongs to the nature of subject. (2) The main criteria of substancehood is *separability* and being a *this*, or *particularity*, but not a such (*Met.* 1029a27). For this reason, firstly, Aristotle eliminates the genus and universal, since they do not satisfy these criteria, and secondly, he claims that form and the compound of form and matter could be thought to be substance rather than matter (*Met.* 1029a30). (3) In Z4, he clearly says that the essence of something signifies its definition (*Met.* 1030a18); for example, the essence of X is what X is. In other words, the definition of X is the formula which states the essence of X. Moreover, in Z6, he writes that each thing is the same as its essence, and the essence of each thing addresses its substance, and hence its form (*Met.* 1031a15). So, each thing is the same as its form. (4) With regards to *definition*, he explicitly says that a definition is of universal and form (*Met.* 1036a29). This claim reinforces point 3, since Aristotle claims that the definition of something signifies its essence, and naturally its substance, and so it can be claimed that substance is universal. (5) Lastly, and most importantly, in Z13 he rejects the notion that substances are universals, since universals are common and predicable, and these features go against the criteria of *this-ness* and *separability* as mentioned in point 2 (*Met.* 1038b8).

According to these statements and the general frame of *Zeta*, we can draw two different conclusions. The first is that primary substances are particular forms, which every concrete particular has, in terms of the criteria of *separability*, *particularity* and *peculiarity* (that is to say, being *this something*; *tode ti*). The second conclusion is that primary substances are universal (the species of particular entities), since they are what these particular entities are, or the definition of them (the what it is; *ti esti*). According to Loux (2008, p.103), Z6 offers two different conclusions about the nature of substances: the first result is *nominalist*, and the other seems to border on *Platonist*. The former shows the primary *ousia* as particulars, each with an essence unique to it. The latter takes them to be somehow general, since Aristotle insists that it is substantial form that is essence and *ousia*. According to these two results, it seems that he is holding the view that first, it is particular forms that are primary reality, and the secondly is that form is understood as something somehow common to all members of a given species, that is, a primary substance (Table 8).

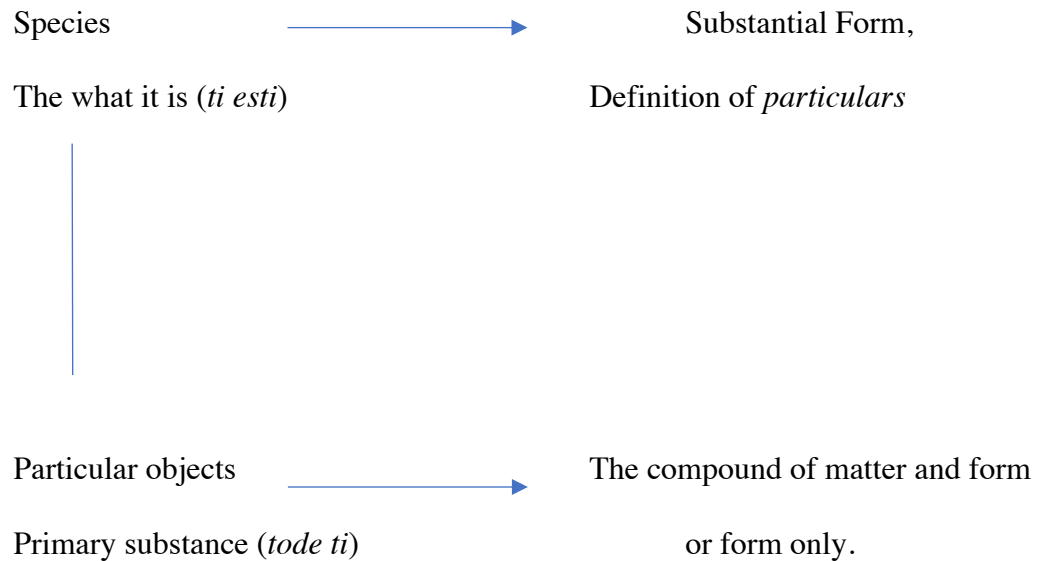


Table 8. Substantial Forms

Secondly, in his *hylomorphic* system, there is no further explanation about how species and particular objects are related to each other, and, if primary substances are universal, how they can be predicated a particular piece of matter. Although *Zeta* leads to the conclusion that the two different kinds of substantial form, particular and universal, it is necessary to understand the ontological relations between these entities to solve the problems of the *knowability* of particulars and the *substancehood* of species. Aristotle did not mention any relations between particulars and universals in *Zeta*, but his early substance theory, the *Categories* or his *four-fold ontology*, includes ontological relations. This is the main reason why I claimed already that the four-fold ontology is useful for the main *aporia*. In the *Categories*, Aristotle never uses the terms particular and universal, but in his four-fold ontology, it is seen that he categorises entities by focusing on the division of universals and particulars. He clearly writes that some entities are **not said of a subject**, and they are particular and numerically one, and this description corresponds to the definition of

particulars both in the *Metaphysics* and the *De Interpretatione*. On the other hand, some other entities are **said of a subject**, or predicated on a subject, and then they are universals. All entities of the Aristotelian four-fold ontology and their characteristics can be shown as follows (Table 9):

<p>Secondary Substances</p> <p>They are said of a subject but not in a subject.</p> <p>e.g. Man, horse (kind - i.e. species or genus).</p>	<p>(Secondary) Non-Substantial Categories</p> <p>They are both said of a subject and in a subject</p> <p>e.g. Knowledge, Red</p>
<p>Primary Substances</p> <p>They are neither said of a subject nor in a subject</p> <p>e.g. This man, this horse (a particular entity of a kind).</p>	<p>(Primary) Non-substantial Categories</p> <p>They are not said of a subject, but in a subject.</p> <p>e.g. This knowledge of literature, this red.⁹⁷</p>

Table 9. Four-fold Ontology I

In his four-fold ontology, Aristotle recognises that there are two sorts of things which are particular and numerically one: some that are **not in a subject**, and some that are **in a subject**. The former can be identified as basic and independent entities, or primary substances (Matthews, 2009, p.145). According to the **said of** relation, on the other hand, if something can be **said of a subject** it is universal, and if something **cannot be said of a subject** it is particular. The most important description, and the most obvious division between particulars and universals in the *Categories*, is the **said of relation**. As discussed in Chapter 2, this relation indicates the relation between universal and particulars, and another ontological relation, namely **being in**, signifies the relation

⁹⁷ Aristotle did not give a specific name for any categories which are not substantial in the *Categories*. According to Matthews (2009, p.147), particular properties can be named as primary properties, and universal properties can be named as secondary properties, as indicated as Table 4.

between objects and properties. With all these ontological relations, the **Aristotelian Ontological Square** (Table 10) can be seen as follows:

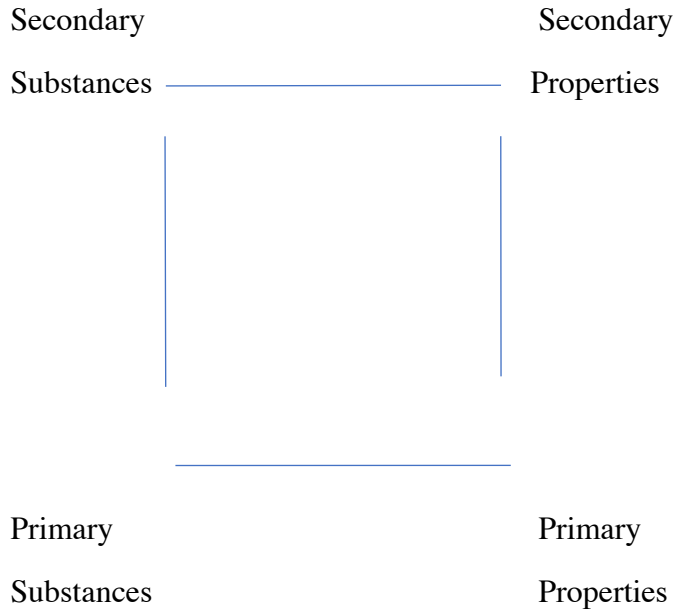


Table 10. Four-fold Ontology II

On the one hand, there is a relation between primary and secondary substances called the **said of** relation; on the other hand, the relation between substances and properties is called the **being in** relation. The said of relation can also be identified as a *classification relation*. For example, man is *said of* Socrates means that Socrates is *classified* basically and fundamentally as a man. An important question arises at this point as to why we should not say that *Socrates is said of Socrates*. This is the reason why Socrates cannot *classify* himself, and it should be an *instance of class*. Moreover, man is **said of** Socrates, which means that it *names* Socrates, and it shows the kinds of Socrates. Aristotle explicitly writes that secondary substances are **not in a subject**. In other words, it is obvious that secondary substances are different from *qualities*; they are not like other categories, specifically in the relation of primary substances. According to Aristotle, species and

genus (secondary substances) signifies *a certain sort of substances*, but not their *qualities* (Cat. 3b19).

As aforementioned, without particulars there would be no species, or secondary substances, according to the realism of Aristotle.⁹⁸ This is because there is no such *un-instantiated universal* entity. This is the most important reason to claim that secondary substances, or kinds, are ontologically *dependent on* their instances, or primary substances in this ontological square. The critical question arises at this point over whether it could be possible to talk about the dependency of primary substances on secondary substances. It has been mentioned that, according to traditional interpretations, there is a *one-way ontological dependency* between a primary substance or object (e.g. Socrates) and his particular property (e.g. his whiteness); namely, particular properties depend on a primary substance, but not *vice versa*. What about the relation between Socrates – a primary substance – and his kind – a secondary substance? Although Aristotle never makes this claim in the *Categories*, specifically, or anywhere else, it would seem that a primary substance depends on its particular species to which it belongs. For example, as a secondary substance, *man* depends on its instances – e.g. Socrates, Callias – and if there were not any man, it would be difficult to say that the species – man – exists. However, as mentioned above, Socrates *classifies* basically and fundamentally as a man. This relation allows us to say that Socrates depends on his species as much as the species depends on Socrates. It is enough to note that particulars would seem to depend on their species as much as the species do on particulars, but although this dependence of particulars on their species is implicit in the *Categories*, it is left undeveloped in that work by Aristotle (Furth, 1988; Loux, 1991, cited in Cohen, 2009. p.200).

It seems that from *Metaphysics Zeta* to the *Categories*, Aristotle presents *two different* kinds of substance theory. However, I believe that Aristotle is *consistent* in his ontology about substances, because he implicitly claims the same result about the nature of substance, and the truth is that Aristotle has different ways to describe substances. Obviously, there are some differences in these two corpuses. For example, in *Zeta* he never divides substances into primary and secondary as he has done in the *Categories*, and he does not write about particular or universal attributes. On the other hand, in the *Categories*, he does not mention about matter and form. Despite these

⁹⁸ “For example, animal is predicated of man, and therefore of the individual man; for were it predicated of none of the individual men, it would not be predicated of man at all” (Cat. 2a34)

differences, according to compatibilists, including myself, Aristotle analyses concrete particulars as primary substances in the *Categories*, and the substance of concrete particulars in the *Zeta*. In addition, as has been mentioned, it is possible to analyse concrete particulars by their form, or *vice versa*.⁹⁹

If it is said that both particular concrete objects and their form can be analysed together to grasp the nature of each, then why do we need to take note of the *Categories* for the main *aporia*: whether Aristotelian substances are particular or universal? The answer is that it is useful to analyse the ontological relations between universal and particular entities, and this is the main reason for analysing the *Categories*, since there Aristotle explicitly gives some ontological relations between these entities. However, in *Zeta*, it is quite ambiguous, and the conclusion he has in his mind causes a distinction between what is the most real and what is the most knowable. Secondly, there is a kind of **essentialism** in the *Categories*, because Aristotle argues that we most fully articulate what a primary substance is when we identify it by reference to the lowest-level kind or species to which it belongs (Loux, 1991, p. 3). Moreover, this essentialist interpretation of the basic subjects of primary substances entails how they depend on their species for their existence as well. Loux (1991, p.48) writes:

“Even if we accept the view that the existence of a universal requires the existence of some concrete instantiation, the fact is that the essentialism that underlies the account of *ousia* in the *Categories* forces us to conclude that the relevant asymmetry just does not obtain the relationship between substance-species and their members.”

Having said that, both in the *Categories* and *Zeta*, primary substances, or forms, are the things on which other things, non-substantial categories and universals, depend, but they are not themselves dependent on any other things. For particularity and separability to be the main criteria of primary substances, these criteria must be independent. However, on the one hand the essentialist interpretation of the *Categories*, and on the other hand the problem of knowledge of primary

⁹⁹ “We do well to identify an individual concrete thing with its own particular substantial form. This then will enable us to accept both Aristotle’s view of the *Categories* that individual concrete things are the primary substances and the view ... in the *Metaphysics*, that particular substantial forms are the primary substances. For according to my suggestion, these two doctrines exactly coincide” (Lowe, 1998, p.222)

substance in *Zeta*, signify an alternative conclusion. Namely, even if species (i.e. secondary substances) require instantiation on particular instances of them, and hence they are dependent on these instances for their existence, those particular objects in turn could not exist without being instances or members of the same species. “Even though the four-fold ontology of the *Categories* grants species only *secondary* status as *substance*, the mutual-dependence here suggests a more liberal approach to the whole business of identifying primary *ousia*” (Loux, 2008, p.76).

Lastly, I claim that the main problem in Aristotle’s substance theory is solved by focusing on the relation between entities involved in the problem - universal and particular - since the relation between them can make them *substantial*, and it is claimed that they both are substances. Even though, in the *Categories*, Aristotle does outline these ontological relations between particular and universal entities, it is nothing more than a determination of their ontological status. In other words, these definitions of relations are quite ambiguous. At this point, the Four-Category Ontology has a useful method to analyse both the ontological relations between entities and the main *aporia* which Aristotle indicates in *Metaphysics Beta*.

Aristotle formulates the problem of *whether principles are particular or universal*, and it is expected to find a proper answer in *Metaphysics Zeta*. The picture he draws in *Zeta* gives us a chance to reformulate the problem as *whether substances (i.e. forms) are particular forms themselves or the species of particular entities*. Moreover, according to the ontology of the *Categories*, it is asked *whether primary reality is concrete particulars (he calls them primary substances), or species/genus (namely, secondary substances)*. In this scheme of the problem, on the one hand, the correlation is seen between particulars (in *Beta*), particular forms (in *Zeta*), and primary substances (in the *Categories*). On the other hand, the same correlation is true for universal, species and secondary substances, respectively. It has been outlined that, although Aristotle uses different phrases, they signify the same meaning, in definition. I claim that we need to analyse the ontological relations between entities which are located on the *two sides* of the problem, because both *particulars* and *universals* are substantial, in terms of the ontological relation between them. According to Jonathan Lowe, both universal and particular entities are substantial, since particular entities, *necessarily*, are instances of universals, and universal entities, *necessarily*, are instantiated by particulars. Because of the relation of instantiation, whether

substances are particular or universal can be interpreted by saying that they are both *objects* and *kinds* (Table 11).

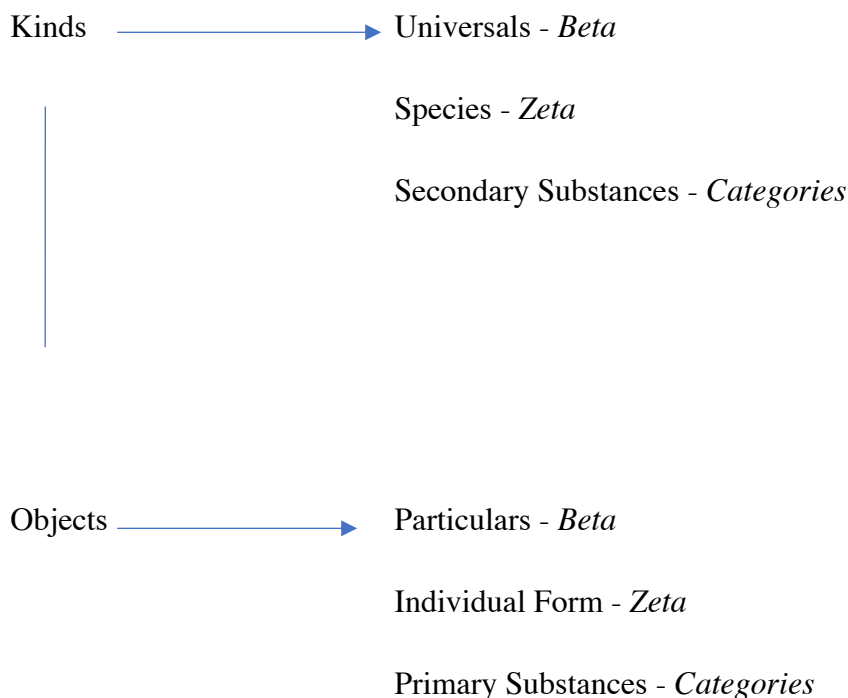


Table 11. Kinds and Objects

Lowe's ontology is inspired by the ontology of *Categories*, namely the four-fold ontology. It can be seen that this ontology does not include form, since Aristotle does not mention form in the *Categories*. However, in the Four-Category Ontology, Lowe claims that there are forms, namely, the form conceived as a type of universal, or in other words substantial form, and it is really nothing other than a *secondary substance* or substantial kind, and this ontology includes particular substantial forms. The main claim of the Four-Category Ontology is that the form of particular subjects is nothing other than *particular instances of substantial universal forms*. For example, Dobbin must certainly have material parts, e.g. a head and limbs, but according to the *hylomorphic* system of *Metaphysics Zeta*, how could it be said that Dobbin is a combination of his material parts and the universal form in question? Lowe explicitly says that "particular or primary

substances are nothing other than particular forms, or form-particulars - particular instances of universal forms” (Lowe, 2010, p. 72).

The Four-Category Ontology includes ‘two different kinds’ of form *in definition*, and it has an ontological relation to show how these two entities are related each other. On the one hand, it accepts the one-way dependency of universal entities on their instances; in other words, universals require the particular instances of them for their existence. On the other hand, it is said that this new ontology has a kind of *essentialist* approach to the problem. As mentioned above, this means that not only do universal entities depend on their instances, but also particular instances should be an instance of a kind, necessarily. In short, Lowe indicates this dependency by using *instantiation* in his ontology. Before discussing the nature of *instantiation* and other ontological relations between particulars and other entities, it would be useful to re-analyse the *aporia* in terms of the Four-Category Ontology.

The question is whether Aristotelian substances are universal or particular.

- In terms of *hylomorphic theory*, Aristotelian substances could be either particular or universal. However, according to the conclusion of *Zeta*, the nature of substance (being *tode ti* and *ti esti*) signifies another alternative answer that Aristotelian substances are both particular and universal, but the ontological relation between these entities and how they are substantial is quite ambiguous in *Zeta* (Table 7).
- According to the four-fold ontology of Aristotle, the *said of relation* explains the ontological dependence of universals on particulars, and it is claimed by Aristotle that secondary substances are *what a primary substance is in definition*, but primary substances have ontological priority, since they are *separable* and *particular* (Table 9).
- According to the essential interpretation, as mentioned above, this priority is unfair¹⁰⁰, and particular entities should be dependent on their kinds and *vice versa*, hence they are mutually dependent entities. Lowe’s ontology supports this claim by highlighting the

¹⁰⁰ “This priority is unfair” refers to the ontological priority of particular entities. *Mutual-dependency* argues that particular entities depend on universal entities, as their instances. So, this dependency suggests a more liberal approach for identifying particular substances and their ontological priority.

relation of instantiation. In this case, Lowe would answer the *aporia* by saying that *substantial entities are both **kinds** and **objects***, since they are ontologically related to each other (Table 12).

Substantial Entities of the *Four-Category Ontology*:

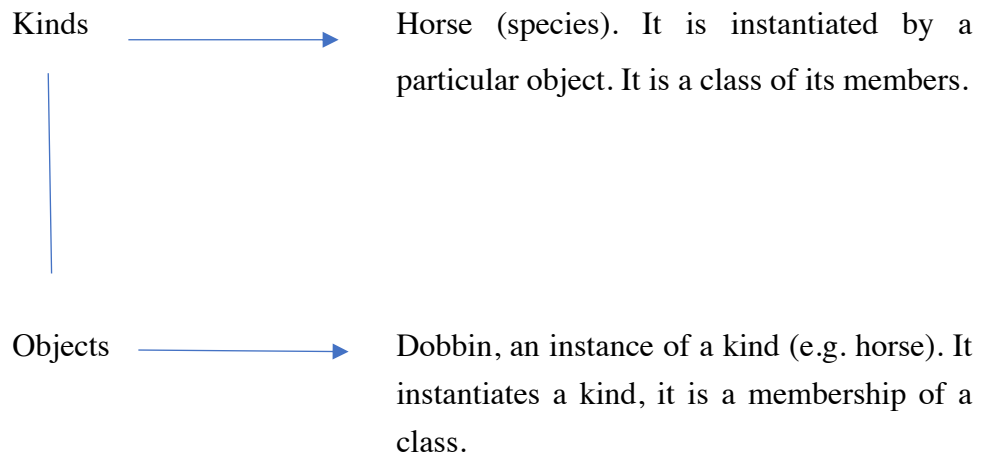


Table 12. Substantial Entities

At this point, there is one question left to answer: why do we need four different categories for the main *aporia*? Is it not enough only to claim that Aristotelian substances are both kinds and their objects? In other words, is it not too much to talk about two other categories, namely attributes and modes? I discussed why we need modes and substantial kinds, but it is useful to make it clear for the *aporia* why we need modes and attributes at this point. There are two reasons for this requirement. The first is that neither *particulars* in Aristotle’s ontology nor *objects* in the *Four-Category Ontology* are *bare particulars*. Lowe (2009, p.3) writes that: “Particular objects are individuable and identifiable only as particulars of this or that *sort* or *kind* – there are no ‘bare particulars’... ‘individual’ and ‘kind’ are mutually dependent, with neither being in any sense more fundamental than the other – a corollary of which I take to be that individuals and kinds are ontologically on an equal footing.” This means that every particular entity should instantiate a universal kind, and, additionally, they **should** have some particular properties, because they are

not *bare*. Secondly, all particular entities in the Four-Category Ontology can be defined as an instance of a universal entity. For example, the particular whiteness of Socrates is an instance of a universal property: whiteness. These are the reasons why, when we discuss the *aporia* of whether Aristotelian substances are particular or universal, we need to take into account the kinds of each particular and its properties as well, since they are not *bare*. Objects are, on the one hand, instances of kinds, and on the other hand, they are characterised by their particular properties, and these particular properties are instances of universal properties or attributes.

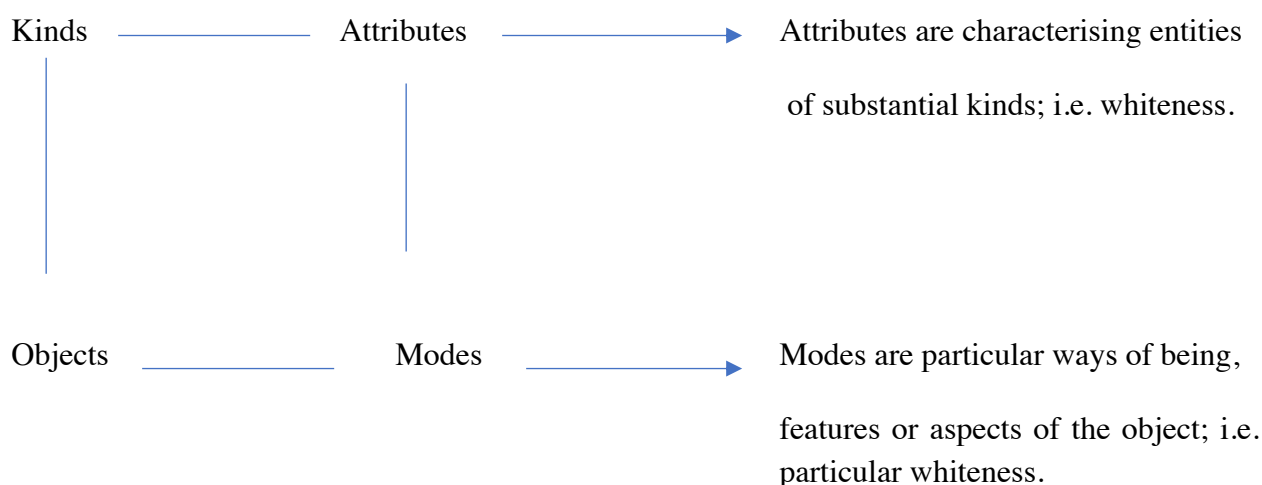


Table 13. Four-Category Ontology IV

The evolution of the *aporia* is sketched as follows;

Problem - *Metaphysics Beta* - Whether principles are particular or universal.

Argument - They are both, because of the ontological relation of universals and particulars.

The Metaphysics Zeta: Aristotelian *forms* are either particular or universal.

The Categories: Aristotelian *substances* are **primarily** particulars - individual concrete objects -

and *secondarily* universals - the species of particular concrete objects.

The Four-Category Ontology: Aristotelian *substantial entities* are both *kinds*, which are necessarily instantiated by particular objects, and *objects*, which are necessarily instances of kinds.

4.3. Ontological Relation between Particulars and Universals: *Instantiation*

After reformulating *the aporia* in Aristotle's *Metaphysics* by focusing on the entities of the Four-Category Ontology, a question arises over how these four (ontologically fundamental) categories are related to one another. According to the *aporia*, and as I argue, both universals (e.g. kinds in the sense of the Four-Category Ontology) and particulars (e.g. objects, particular substances) are substantial. Furthermore, particular substances exemplify some properties, and all of these properties have particular instances of them, namely *modes*, the existence of which are dependent upon particular substances, since there are no bare particulars. In other words, all particular substances have particular instances of properties (such as a particular shade of redness), and these particular substances, themselves, are instances of their own substantial kinds. This kind of ontology, on the one hand, includes two kinds of particulars: objects (substantial) and modes (non-substantial); and two kinds of universals: kinds (substantial) and properties (non-substantial). According to Lowe (2006, p.21), particular substances in a certain sense are the most fundamental, but in another sense all entities of Lowe's categories are *equally basic*. The main subject of this chapter is an analysis of the ontologically basic relations between these four entities, to make it clearer how these four entities are fundamental, and, hence, how they are not reducible to each other.

Lowe lists three formal ontological relations between the entities of his ontology, namely: *instantiation*, *characterisation*, and *exemplification*. Firstly, *instantiation* is the relation between universal entities and particular entities, and both substantial and non-substantial entities have this relation. *Kinds* are those universals that have *objects* as their instances, and *attributes* are those universals that have *modes* as their instances (Lowe, 2006, p.39). For example, the kind 'dog', which is conceived as being universal, is instantiated by Fido, which is a particular dog. Moreover, the property whiteness, which is conceived as being universal as well, is instantiated by the

particular whiteness of Fido. The second formal ontological relation is *characterisation*, and it is an ontological relation between substantial and non-substantial entities. *Exemplification*, thirdly, is a relation between particular substances and properties. For instance, as a substantial object, Fido is characterised by a particular whiteness, and some other particular properties of itself. On the other hand, as a substantial universal, doghood is characterised by universal properties, e.g. whiteness. Moreover, the ontological relation between Fido and the property of whiteness is exemplification.

The first two ontological relations link substantial and non-substantial entities on the one hand, and universal and particular entities on the other hand. However, exemplification is only between substantial particulars and properties. It is useful to discuss these ontological relations by focusing on their relations with particular substances. What this means is that the relation between particular substances and their kinds is instantiation, and the relation between particular substances and their particular properties is characterisation. These relations address the *said-of relation* and *being-in relation* in the *Categories*, respectively, as has been outlined. Lowe (2006, p.26) explains all of these relations with the example that an individual ripe and red tomato instantiates the kind ‘tomato’, and it is characterised by a particular redness. In an Aristotelian sense, the kind ‘tomato’ is *said of* an individual ripe tomato. Moreover, its particular redness is *being in* that individual tomato. Lastly, that individual tomato exemplifies the non-substantial universal or property: redness. In the *Categories*, Aristotle does not mention any ontological relations between universal properties (e.g. whiteness, redness) and primary substances (e.g. Socrates, a ripe tomato). Lowe, however, defines this relation with the term *exemplification*.

I discuss the relation of instantiation according to three main aspects. First of all, as an ontological relation, it is between particular entities and universal entities, but, strictly speaking, it is discussed as a relation between particular substances and their kinds, namely, substantial universals. Secondly, in definition, instantiation is an alternative factor for the *distinction* of particular and universal entities. What this means is that particular entities are instances of universals, but themselves cannot have instances, and this is the main factor which divides particulars from universals *in definition*, besides a spatiotemporal account.¹⁰¹ Lastly, instantiation is an argument

¹⁰¹ This is the main claim for saying that universals are multiply locatable entities, but particulars are not, see. Chapter 3.4.

for the existence of substantial universals. In other words, according to some metaphysical accounts, substantial universals or kinds can be reducible to either particular objects or universal properties. However, in the account of the Four-Category Ontology, kinds are one of the fundamental categories. This is the reason, at this point, I discuss why kinds or substantial universals are irreducible entities, and how instantiation could be an argument for the existence of universal entities. In relation to all three of these aspects, three sorts of ontological dependency will be outlined: namely, rigid, non-rigid, and identity dependence.

First of all, the Aristotelian position, in terms of realism, differs from the transcendent position, as mentioned before. The latter claims that the existence of universal entities (e.g. roundness, whiteness) and kinds (e.g. horse, human-being) *could be* distinct from their instances. However, according to Aristotelian or immanent realism, they are not separable from their particular instances. In this case, two points arise: firstly, there should be an ontological dependency between a universal entity and its instances; and secondly, related to this dependency, particular entities should have a priority *ontologically*. According to the transcendent view, a universal entity can exist without any instances. However, Aristotelian realism requires particular instances for the existence of universal entities. Furthermore, the general picture of immanent realism requests that particular entities are indeed *ontologically prior*, since their existence is grounded on the existence of their sorts, but not *vice versa* (Lowe, 2009, p.162). As has been mentioned before, according to immanent realism, in one sense, the relation between objects and their sort is asymmetric; this means that the existence of substantial universals depends upon their particular instances (not vice versa). In another sense, however, this dependency is **symmetrical**. This is the main reason why I claim that the basic ontological relation of instantiation is interpreted as the main factor in this **symmetrical** ontological dependency between objects and their sorts.

The relation of instantiation, especially between an object and its kinds, can be analysed by addressing what Aristotle divides into accidental and essential predication. According to the former, an object can have a property, but that object can lack this property as well; for example, this pen is green, or Socrates is white. The particular greenness of that pen, and the particular whiteness of Socrates, can be changed. However, according to *essential predication*, an object must have that property, such as that particular pen is an instance of the kind ‘pen’, or Socrates is a particular human being. At this point, the main problem is the *ontological relations* between

these particular objects (pen and Socrates), their modes, and their kinds. Lowe names these two kinds of predication *is of attribution* and *is of instantiation*, respectively (Lowe, 2009, p.29).¹⁰² The latter kind of predication signifies the ontological relation of *instantiation* and defines it as follows: particular objects must always be thought of as being particulars *of some sort*. On the other hand, every sort may be thought of as a sort of some particular entity. As Lowe (2009, p.9) writes:

“I have also made it clear that I regard sorts or kinds as being *universals*, whereas the individuals of which I have spoken are *particular objects* that are instances of – that *instantiate* – such sorts or kinds. In particular, Aristotle spoke of ‘primary’ and ‘secondary’ substances in the *Categories*, where I have used the terms ‘individual substance’ and ‘substantial kind’ respectively. But he makes it perfectly clear that what he regards as being ‘secondary’ substances are precisely the *species* and *genera* (that is, the *sorts* or *kinds*) of ‘primary’ substances, and that the latter are *particular objects*, such as a particular horse or a particular table.”

In Chapter 2, how Aristotle identifies the relation between primary and secondary substances using the phrase *said of* was discussed. Moreover, it is a general interpretation that the *said of* relation is the formal ontological relation between universal and particular entities, in Lowe’s ontology specifically. For example, man is *said of* Socrates; or to put it another way, man *is instantiated by* Socrates. In the *Categories*, Aristotle does not give any more explanation about this ontological relation. It is mentioned only that this relation makes kinds of primary substances *secondarily* substantial. Moreover, the *said of* relation is a kind of ontological relation for stressing the priority of primary substances.¹⁰³ Aristotle explicitly claims that secondary substances are only *said of* primary substances, but not vice versa. So, this is true for instantiation as well; in other words, universal entities can have instances which are particulars, but not vice versa. However, it seems that instantiation can be used as a transitive word. For example, it means that, on the one hand,

¹⁰² It should be noted that Lowe (2006, p.59) identifies these two kinds of predication, instantiation and characterisation, as being fundamental ontological relations, and he does not think that these relations are *entities* or elements of being. “For example, the fact that Fido instantiates the kind ‘dog’ is not a *relational fact*, in the way that the fact that John loves Mary is. Instantiation and characterisation are called internal relations, and an internal relation, in this case, is one in which such relations must stand, or is a logical and metaphysical necessity, given merely that they themselves exist and have the intrinsic properties or natures that they do”. Lowe prefers to call instantiation and characterisation *formal relations*.

¹⁰³ This is because primary substances are neither *said of* a subject, nor *in* a subject. In other words, they are independent entities, hence, they do not need any other entities to depend on them ontologically.

universal entities are instantiated by particulars, but on the other hand, particular are instances of universals. In general, linguistically and metaphysically, the relation of instantiation could show the position and status of both entities better than the phrase *said of*. At this point, Lowe (2009, p.9) says that “the phrase *said of* ostensibly expresses a linguistic relation only, and it is the reason that instantiation can be an appropriate way to see the metaphysical relation between particular and universal entities”.

Second of all, it has been mentioned that, traditionally, the most common characterisation of the distinction between particulars and universals is a *spatiotemporal account*. This means that universal entities are multiply locatable entities, but particulars are not. In other words, particulars are distinctive in being individuated by their spatiotemporal locations, and naturally this means that no two particulars can exist in exactly the same place at the same time; additionally, no single particular can exist in two wholly distinct places at the same time. However, it is claimed that that a single universal is capable of existing in two wholly distinct places at the same time (Love, 2002, p.348). For example, the property of being white, or whiteness, can exist in every spatial location that is occupied by white objects. In general, this factor can be seen as a main factor used to distinguish particulars from universals, traditionally. However, it has been discussed that this is problematic in many aspects. For instance, if there can be any such abstract objects, they cannot exist in any spatial location.

Another alternative and more salient way to define the distinction between particulars and universals is the relation of instantiation, in which one entity may stand against another. On the one hand, every particular object instantiates, or is an instance of, some universal. On the other hand, strictly speaking, especially for immanent realists, every universal has particular instances.¹⁰⁴ For example, a particular dog, Fido, is an instance of the kind ‘dog’, and the kind ‘dog’, as a substantial universal or kind, has at least one instance. The reason why the relation of instantiation can distinguish particulars and universals is obvious, since particulars are such entities which cannot be instantiated by any other entity; in other words, they cannot have some instances, but

¹⁰⁴ “Universals are entities that are instantiated—that is, they have instances—while particulars are the entities that instantiate them. Typically, universals are *multiply* instantiated— that is, they have many instances—but they need not be. At most I insist that every universal has at least one instance (in other words, I espouse ‘immanent’ rather than ‘transcendent’ realism where universals are concerned).” (Lowe, 2006, p.114)

universals can. Lowe's (2006, p.77) proposal is that any particular must instantiate some universal, and any universal must at least be *capable* of being instantiated by some particular. This means that particulars, then, just *are* 'instances' of universals, and universals just *are* entities that have, or at least *can* have, 'instances'.

It is claimed that the relation of instantiation can be defined as a more promising way to generally distinguish particulars and universals, and specifically substantial particulars and their kinds, e.g. substantial universals. According to Lowe, this distinction between particulars and their sorts is mutually exclusive, which means that nothing can be both a particular and a sort (Lowe, 2006, p. 38). An entity can be particular if and only if that entity is an instance of something. However, if it is said that something is a kind, it should have instances. This is because particular entities cannot have instances, and universal entities cannot exist without at least one entity, which is the reason why something cannot be both universal and particular.

The question arises at this point how, then, is it argued that Aristotelian substances are both universal and particulars, and even, as it has been claimed, is the relation of instantiation one of the reasons for their substancehood? This is so because, particular entities and universal entities are related to each other. For example, a particular dog *has to be* an instance of a sort - doghood. Moreover, according to Aristotelian realism, the kind 'dog' has to have some particular instances. This essential and mutual dependency gives us the result that both kinds and particulars are identified as substances, since their **mutual dependency** causes them to be defined together, and, in another sense, they are both substantial.¹⁰⁵ However, this does not mean that a particular dog is both a particular and universal. I still agree with the claim that the relation between particulars and universals is mutually exclusive, which means that something cannot be both universal and particular. However, I claim that this does not mean that both universal and particular entities cannot be substantial.

¹⁰⁵ It means that according to the *Categories*, primary substances depend for their existence on their belonging to the particular species they belong to. (Cohen, 2009, p.199). For example, Socrates is ontologically dependent on its kind-human being- and when one of them is identified as substantial, it is not wrong to claim that another one is substantial as well.

Third of all, if it is true and if Lowe is right in terms of the distinction between particular and universal entities, in general, another problem arises. As has been discussed in the previous chapter, this involves the relation of instantiation. The problem is, why do we need substantial universals? Is it possible that they can be reducible to property universals, as David Armstrong claims?¹⁰⁶ This will become clearer shortly, but first I discuss instantiation as one of the demonstrative ways that substantial kinds exist. This is also related to the distinction of predication, which I discussed at the beginning of this section when I stated that Lowe addresses two kinds of predications, which he identifies using the phrases “is of attribution” and “is of instantiation”. On the one hand, Lowe mainly focuses on one main question: what is something, fundamentally? For example, what is Fido, fundamentally? Aristotelian substantial ontology might answer that question by saying, “Fido is a particular dog”; in Loweian language, Fido is an instance of the substantial kind ‘dog’. On the other hand, as a particular object, Fido is a bearer of some particular properties – or modes – which are instances of universal properties – or attributes. The whiteness of Fido is his particular property, but also the ontological relation between Fido and his attributes – e.g. whiteness – is exemplification; hence, Fido exemplifies the property of whiteness.¹⁰⁷ Shortly, Fido is a dog, because it itself is an instance of the kind ‘dog’, which is a substantial universal. This shows the distinction between the ontological relations of instantiation and exemplification. The latter will be discussed in due course, but in terms of instantiation, it is mentioned as a main factor in the claim that substantial universals exist. At this point, Lowe (2010, p.78) writes:

“Dobbin is a *particular* and hence, according to the foregoing proposal, *an instance of a universal*. But of *what* universal is Dobbin an instance? Suppose that we were to restrict ourselves solely to *property* universals, such as *whiteness* and *heaviness*. And suppose, as before, that Dobbin is both white and heavy. Can we then say that Dobbin is an instance of *whiteness*?...we may refer to *Dobbin’s whiteness* and *Dobbin’s heaviness* as being, in Dobbin’s case, the relevant *instances* of the universals *whiteness* and *heaviness* that characterize Dobbin. But, according the suggestion now under examination, it is just *Dobbin himself* that is the relevant instance of *both* of these universals. And that implies that Dobbin’s whiteness is *identical* with Dobbin’s heaviness, both of them simply being identical with *Dobbin*. But this seems absurd.”

¹⁰⁶ Especially in *A World of States of Affairs* (1997), *Universals: An Opinionated Introduction* (1989), and *What is a Law of Nature?* (1983) by Armstrong.

¹⁰⁷ Exemplification is not a *fundamental* formal ontological relation, in the way that *instantiation* is. This is because it obtains the relation between Fido and the universal property *whiteness* in virtue of the fact that Fido is *characterised* by an *instance* of that universal: *Fido’s whiteness* (Lowe, 2010, p.79).

In terms of this argument, then, the question is what fundamentally is a particular substance, e.g. Fido? Lowe claims that what makes a particular (e.g. Fido), *substantial* is its kind, doghood. It cannot be said that Fido is whiteness, or any other property which it exemplifies, since Fido is a particular, but not a universal, and Fido is *fundamentally*, or in other words *essentially*, is an instance of a kind, e.g. dog. In general, as a particular, Fido or Dobbin should instantiate some universals, but obviously these are not properties but substantial kinds. On the other hand, some substantial kinds *should have* instances of themselves. This is the main reason why Lowe claims that instantiation is one of the conditions for substantial universals to exist. Before I discuss ontological dependency in the case of instantiation, it could be useful to see how Armstrong's ontology explains the relation between particulars and their properties by rejecting instantiation and substantial universals, or kinds. In other words, he mainly claims that substantial universals are reducible to universal properties.

In his ontology, Armstrong accepts both bare particulars and universals, and he does not accept the existence of particular properties and universal kinds. Each particular object possesses at least one universal. Particulars always instantiate properties and properties are always instantiated by particulars. For example, a pen's redness appears to be a kind of particular, but this need not entail that the red of the pen is itself literally particular. However, this pen-being-red is a particular; it is a state of affairs which is instantiating of a particular pen the property of redness. This means that where we have a particular plus a universal connected together in this way, we have a further particular: a *state of affairs*. Armstrong refers to this as the victory of particularity: a particular (this pen) + a universal (the property of redness) = a particular (this red pen) (Armstrong, 1978, p.115, cited in Mumford, 2007, p.28).

So, the question arises: what is the relation, if any exists, between particular entities and their universal properties? Armstrong, in his ontology, wants to retain a substance (substantial particular) and universal attributes. However, he rejects the traditional relation of instantiation that is said to tie a substance to its attributes in order to form an object, since he is a non-relational realist, and he defends the claim that realism need not countenance a relation of instantiation. Moreover, he mainly suggests that substantial universals are entities reducible to universal attributes. So, what is the alternative way, rather than instantiation, in the case of their relation? Summerford (1998, p.597) summarises these alternatives as follows:

“There are two suggestions: first, the realist might claim the relation of instantiation to be *sui generis*, a relation, that is, that admits of no additional metaphysical explanation. According to this view, instantiation is a genuine relation but it is a relation that differs from other relations in that it admits of no further analysis; it must be taken as a brute fact. Moreover, as Armstrong does, it may be denied that there is a relation of instantiation at all. According to this view, to say that a particular *a* is F is to say no more nor less than that *a* and the universal F-ness are the joint constituents of the state-of-affairs of *a*’s being F.”

In general, on the one hand, in Armstrong’s ontology fundamental entities are not only bare particulars or universal properties, but states of affairs. This is because, according to Armstrong, bare particulars and universal properties (attributes) are dependent entities, and their existence depends on one or more states of affairs. On the other hand, Armstrong denies that we must posit a third entity, as a relation, between a particular and a universal property. As exemplified below, the pen’s being red is a state of affairs, and this statement can be rephrased as “the pen is red”. It seems that we have three main entities in this statement: namely, a particular (pen), a universal (redness), and the relation between them - *is*. As has been discussed, Lowe calls this relation the “is of attribution”, since in this case the property of redness is exemplified by a particular object. However, in this sense Armstrong is a non-relational realist: he denies the need to countenance within his ontology a relational tie of instantiation, or any other kinds of relation between these entities (Summerford, 1998, p.580). Lastly, in the case of *instantiation*, it is useful to discuss two further problems. The first is related to the problem of Armstrong’s ontology, namely, whether substantial kinds are reducible or irreducible to universal properties. This is related and important, since it leads on to a discussion about the necessity of instantiation. The second problem is around the three ontological dependencies in Lowe’s ontology: namely, rigid, non-rigid and identity dependency.

Lowe defends in his ontology the idea that universals fall into two fundamentally basic and irreducible categories: namely, kinds and properties, or, in other words, substantial and non-substantial. The Four -Category Ontology is such an ontology that includes substantial particulars, and these particulars are not reducible to property instances or tropes, as trope theory claims; these particulars are not simply bundles of particular properties. Moreover, this ontology defends the irreducibility of substantial kinds in contradiction to some metaphysicians, who claim that they can be reduced to non-substantial universals. It is true that there is another formal ontological

relation between non-substantial universals and substantial universals, and this relation, namely characterisation, will become clearer soon. However, it is a relation between two distinct and fundamental ontological categories which are irreducible to one another. Lowe claims that a substantial general term, i.e. gold, refers to a kind of stuff, which as a matter of natural law is characterised by many non-substantial universals. In that example, gold is not a way of denominating the totality of such characteristics, but it is a way of referring to what it is - a kind of substance - that bears some characteristics as a matter of natural necessity (Lowe, 2006, p.26).

It is the main suggestion of Lowe's ontology that kinds are universal and fundamental entities, but they are not properties, or they cannot be reduced to them. In other words, a particular thing being an instance of a certain substantial universal can never be reduced to that particular thing being characterised by modes of properties. This is because properties, as has been mentioned, exist as being 'the ways things are'. For instance, being white is a way a particular dog, Fido, might be, like being small, black or fat. However, in the sense of the question of what a particular dog is, that refers to the fact that a particular dog is a particular instance of its kind, being 'dog'.

Lowe lists three main factors to distinguish substantial universals from non-substantial universals, and, additionally, to defend the notion that substantial universals exist. These are instantiation, individuality and laws of nature. I have mentioned about instantiation as a factor in the existence of substantial universals above. Moreover, in the case of individuality, Lowe asks what confers 'individuality' upon substantial particulars. For example, what is Fido's *one* thing, distinct and differentiable from all other individual things? What is it that provides Fido with his *identity conditions*? (Lowe, 2010, p.73). He mainly suggests that it cannot be the *property* universals that Fido exemplifies that do so, for such universals determine *no* specific identity conditions for the things that exemplify them. So, this is the reason why what confers a particular substance's particularity upon it is its substantial kind, rather than any properties which are exemplified by it. Lastly, he claims that substantial universals are called to account by the *laws of nature*, since, according to him, laws are the characterisation of kinds by attributes. The problem with natural laws, and their relation to the problem of the universality of substances, will be discussed in the next chapter, but, according to Bird (2011, p.94), substantial universals are not required, since they are complex, and their existence depends on the more basic universals, laws, and certain contingent

facts. This is the reason why they are reducible to non-substantial universals. However, Lowe claims that they are irreducible fundamental entities.

Lastly, in his ontology, Lowe lists three kinds of ontological dependencies in relation to the formal ontological relations: namely, rigid existential dependence, non-rigid existential dependence, and identity dependence. I consider these sorts of ontological dependencies, especially in the case of the relation between objects - particular substances - and their kind - substantial universals. Lowe (2006, p.116) claims that objects or particular substances are **rigidly existentially dependent** upon *kinds*. However, kinds or substantial universals are only **non-rigidly existentially dependent** upon *objects*. In other words, objects depend rigidly *for their existence* upon the ‘highest’ kinds that they instantiate, while all kinds depend non-rigidly *for their existence* upon the objects that instantiate them. I mention, at this point, that ontological dependence is not **asymmetrical** between kinds and objects, which means that not only are universals dependent on particulars, but also particulars are dependent on them, although the *sorts* of dependency are different; one is rigid and another is non-rigid. What I mean by this is that, in the case of traditional interpretation, kinds and other categories depend on objects, or in Aristotelian language secondary substances and other ontological categories depend on primary substances for their existence. However, in Lowe’s ontology, it is said that, in the case of ontological dependency, the relation between kinds and objects is **symmetrical**. Kinds are instantiated by objects, and objects are instances of any kind, necessarily. In other words, kinds are non-rigidly dependent on objects, and objects rigidly depend on kinds. It could be useful to indicate the differences between these sorts of dependency.

“Rigid existential dependence is exemplified by the dependence of a boundary or a hole upon its ‘host’ (that is, the thing that has the boundary or in which the hole exists), or, again, by the dependence of a heap of stones upon the individual stones that it contains. Non-rigid existential dependence is exemplified by the dependence — at least according to an ‘Aristotelian’ or immanent realist view of universals — of a universal upon its particular instances. Identity dependence is exemplified by the dependence of a unit set upon its sole member, or — according to some substance ontologists, at least — by the dependence of a property-instance or ‘mode’ upon the individual object to which it ‘belongs’, or in which it ‘inheres’” (Lowe, 2006, p.34).

At this point, obviously, it is necessary to look more closely at the kinds of dependency: non-rigid existential dependency (the dependency of universals upon their instances, or particulars), and rigid existential dependency (the dependency of particulars upon their kinds, or universals). However, it should be noted that Lowe takes the view that identity dependence entails rigid

existential dependence, and he says that if one entity depends for its identity upon another, then the former could not have existed without the latter (Lowe, 2006, p.35). It is useful to consider rigid and non-rigid dependency using some examples to make it clearer. Firstly, non-rigid existential dependence signifies the dependency of a universal on its particular instances; for example, the non-rigid existential dependence of the universal doghood on particular dog(s): Fido, or some other. A universal-kind depends on its instances non-rigidly, but this does not mean that it depends on its particular instances rigidly; it means that a universal kind, i.e. doghood, necessarily exists only if some particular dogs exist. As Lowe (2006, p.36) writes, “Doghood does actually depend for its existence upon Fido and Rover, because it depends for its existence on there being some individual dogs, and it turns out that Fido and Rover are all the individual dogs that there actually are. And it is this sort of existential dependence that may aptly be called non-rigid.”

A question arises at this point over the relation between non-rigid dependence and instantiation; could it be said that instantiation is, somehow, non-rigid dependence? If so, do we really need to invoke two relations to express the ontological relation or dependency between universals and particulars? In the case of the same example, Fido and Rover each stand in the instantiation relation to the universal doghood; additionally, as mentioned above, the kind, doghood, stands in the non-rigid existential dependence relation to Fido and Rover. Moreover, he writes that non-rigid existential dependence signifies the relation between a universal and its instances being constituted by the instantiation relation, in which the instances stand to the universal (Lowe, 2006, p. 37).

To sum up, it is said that there is a kind of asymmetry between substantial and non-substantial particulars, since the former is defined as an independent entity, whereas the latter is dependent upon particulars. On the other hand, another kind of dependency is true between substantial particulars and substantial universals as well, especially in the case of Aristotelian realism. What this means is that in this realism, universals are generically or non-rigidly existentially dependent on their instances, but it does not mean that substantial universals or kinds are dependent on their instances for their identity. In terms of the idea that there cannot be uninstantiated universals, it could be claimed that universals exist only if they have some particular instances. However, that factor does not make them dependent on particular instances for their *identity*, and it means that the ontological dependency between particulars and universals is **asymmetrical** in a sense, but it is **symmetrical** in another sense. It is not the same kind of ontological dependency between non-

substantial particulars, e.g. modes, and substantial particulars, e.g. objects. Objects and kinds are dependent on each other, although their necessity to one another is different; namely, particulars rigidly depend on universals, but universals non-rigidly depend on their instances, or objects.

I discussed in this chapter why we need an ontology which includes four basic categories to address an old Aristotelian problem, as well as the advantages of Lowe's ontology when we compare it to some other approaches, for example the one or two category ontologies. In relation to this, I discussed why we need modes and substantial kinds in that Aristotelian problem, since it includes specifically the status of the universality and particularity of substantial entities. I also summarised how the Aristotelian problem of *whether principles are universal or particular* can be interpreted using Lowe's Four Category Ontology, by stressing which categories and ontological relations correspond to which Aristotelian notions, and the main focus of this chapter was the formal ontological relation of instantiation. This is because the main argument of this project is that universals and particulars are mutually-dependent entities, according to the ontological relation that they have. According to Lowe, all particulars are instances of a universal, and universals have some instances *necessarily*. Again, it is not wrong to claim that Aristotelian substances are both universals and particulars, since the ontological relation between them makes them **mutually-dependent** and substantial. Lastly, I discussed certain ontological dependences in relation to instantiation. Next, the relation between characterisation and rigid existential dependence will become clearer.

4.4. The Ontological Relation between Substantial and Non-Substantial Entities: *Characterisation*

Characterisation is an ontological relation between substantial entities and non-substantial entities. In other words, it links features to their bearers, including both particulars and universals. Substantial particulars, or objects, are the bearers of their modes, and they are *characterised* by their particular properties. For example, a particular red rose is characterised by its particular redness, so it is one of the *features* of that substantial particular. However, some non-substantial universals or attributes may be *generic features* of substantial universals. Redness, for example, can be *one of the features* of the kind *rose*, as it characterises the kind *rose* but not *all roses*.

Similarly, rationality is a generic feature of the substantial kind *man*. At this point, it is useful to discuss characterisation as an ontological relation between substantial particulars and non-substantial particulars. This is the reason why, some features of this formal ontological relation is explained by comparing the Aristotelian *being in relation* (or, literally, *inherences*). Then, some philosophers claim that the relation between modes and substances may be identified as exemplification. However, in Lowe's ontology, exemplification is another ontological relation between substantial particulars and non-substantial universals. So, before discussing exemplification, the question arises over how these two ontological relations cannot be reducible, and why it is useful to divide them.

In the *Categories*, Aristotle mentions that *inherence*, or the *being in relation*, distinguishes substantial categories from non-substantial categories. Additionally, it is the ontological relation between primary substances and their attributes. For example, the redness of a rose, as a non-substantial particular, depends on a particular substantial entity – a red rose. Moreover, it is accepted that there is a relation between secondary substances and universal attributes in a sense, such as the relation between the kind *rose* and the colour redness. This is because Aristotle does not write specifically about the relation between his secondary substances and universal properties; additionally, as discussed previously, he does not provide a specific name for universal properties, what Lowe calls *attributes*, or what could be named secondary properties. The *being in relation*, or *inherence*, is defined by Aristotle as follows: “By in a subject I mean what belongs in something, not as part, and is incapable of being separately from what it is in.” (*Cat.* 1a24). In the Chapter 2, some aspects of this problem are mentioned; for example, what Aristotle means by *being as a part* and *being separately*. Moreover, the possibility of particular properties in Aristotelian ontology has been discussed. At this point, the specific features of this phrasal relation – *being in* – and *characterisation* should be made clearer.

Firstly, one of the most salient features of the *being in relation* is that the Aristotelian definition of the *incapability of being separate* obviously entails *existential dependence*. For example, Socrates' whiteness depends on what it is that it is in; that is to say, Socrates. The problem has been discussed over (1) whether that particular property, e.g. Socrates' whiteness, could be found in another particular object, e.g. Fido, or (2) whether what Fido has is not the very same whiteness as Socrates has. As a result, it is claimed that the *incapability of being separate* signifies the second

statement. This means that even though Socrates and Fido are white, they do not have the very same whiteness, hence Fido's whiteness is incapable of existing in another object. This is not the main focus of this chapter, and some other possibilities, regarding this problem, have been discussed in Chapter 2. However, it should be noted that *modes* or *non-substantial particulars* depend on their objects or substantial particulars in the Four-Category Ontology as well. So, it is not wrong to say that particular properties – or modes – are *incapable of being separate* from what it is that they are in – their object.¹⁰⁸

It is the traditional distinction that objects and their predicates have different features *ontologically*. For example, the former are ontologically independent, and they do not need any other entities to exist; the second entities, however, are dependent on their bearers. By definition, subjects are entities that are *characterised*, while predicates are the entities that characterise them (Lowe, 2006, p.114). For instance, a particular whiteness *characterises* a substantial particulars, and *characterisation* is an ontological relation between particular substantial entities and non-substantial particular entities. Similarly, a kind is *characterised* by its attributes; for instance, as a kind, a polar bear is characterised by the property of whiteness. However, as has been mentioned at the beginning of the chapter, ontological relations are discussed by focusing on the relation of entities with *objects*, or *particular substances*. For example, instantiation has been mentioned as a relation between particular substances and their kinds, and so it could be useful to discuss characterisation as the relation between particular substances and their modes. However, according to Lowe's ontology, characterisation is quite important when discussing the *laws of nature*, which are identified as the *characterisation* of kinds by their attributes, and this is the focus of the next chapter.

Secondly, for the main *aporia* (whether Aristotelian forms are universals or particulars), it is useful to take into account the status of general and particular properties. This is an important issue, and the question has been asked why modes are necessary, or why they are important for that Aristotelian *aporia*. The first reason is that Aristotelian particulars are not bare particulars, which means that they are an instance of a class (their substantial kinds), and they have some particular

¹⁰⁸ Lowe (2006, p.27) writes, "Property instances are ontologically dependent entities, depending for their existence and identity upon the individual substances which they characterize, or to which they 'belong'. A particular redness or squareness can, ultimately, be identified as the particular property-instance that it is only by reference to the individual substance which it characterizes."

properties which characterise them. For example, Fido is a particular instance of a kind, e.g. doghood, and it has some *predicates* characterise itself, e.g. whiteness, or weightiness. In other words, Aristotelian primary substances are ontologically in relation with other entities, such as secondary substances, as their kinds, and non-substantial properties as their accidental predications. This is the reason for the necessity of discussing particular properties with regards to the main problem and grasping the nature of individual substances. Another question in this case arises over why it is necessary to have another ontological relation – *characterisation* – besides *instantiation*.

In the *Categories*, Aristotle mainly distinguishes two kinds of ontological relations as follows. Firstly, secondary substances are *said of* a subject, and they are not *in* a subject. For example, “man is said of the individual *man* as a subject, but it is not in a subject; man is not in the particular man” (*Cat.* 3a9-10). Moreover, in the ontology of the *Categories*, if something is *said of* a subject, its name and its definition are necessarily *predicated of* that subject; man is *said of* a subject, and both the name of him and the definition of man will be *predicated of* the individual man (*Cat.* 2a19). Secondly, if something is *being in* a subject, it means that it cannot exist separately from that object, and it is dependent on its subject ontologically. For instance, if white is in a subject, then it is predicated neither on their name nor on the definition of that subject. In some cases, it could be said that the name is predicated of the subject, e.g. Socrates is white, but this is not the same sort of predication as secondary substances, and their definition will never be predicated of subjects. So, according to Aristotle, the *said of* relation divides primary substances from secondary substances, but the *being in* relation is such a relation between primary substances and their particular attributes.

Lowe also mentions in the Four-Category Ontology that it is important to divide the ontological relation between particulars and universals, which is *instantiation*, and the relation between particulars and their modes, which is *characterisation*. A substantial particular is an instance of a substantial universal kind, but it is not an *instance* of universal attributes. Moreover, substantial particulars are *characterised* by modes, which are instances of attributes. So, it is the general tendency that, among contemporary thinkers, especially among the supporters of trope theory, substantial particulars *are* instances of non-substantial universals, e.g. attributes. For example, a flower’s particular redness is an instance of the property redness, but that flower itself is not an

instance of the property of redness. Lowe (2006, p.92) writes, “In short, modes instantiate properties. But the *flower* whose mode instantiates the property redness does not *itself* instantiate that property. The flower is not literally an *instance* of the property redness — only the mode is that. None the less, inasmuch as the flower is characterized by a mode which instantiates the property, there is a relationship between the flower and the property, and we need to give this relationship a name. This is what I call *exemplification*.” In general, the Aristotelian and Lowean division between two kinds of relations can be summarised as follows. *Inherence*, or *characterisation*, is a relation of *possession*. For example, a red flower possesses the property of redness, but it is not instantiated by the property of redness. However, *instantiation* is not this kind of relation. Obviously, a particular flower is an instance of its universal kind, but it does not possess that universal kind; as Aristotle says, it is not *in* that particular object. Therefore, these factors are the main reasons why it is necessary to divide the two kinds of relations in such an ontology which includes four fundamental categories.

However, according to Armstrong’s ontology, there is no distinction between *instantiation* and *characterisation*. As aforementioned, it is claimed that Armstrong is a non-relational realist. However, the relation between substantial particulars and properties is identified in any way, since particulars are related to properties instantiating or exemplifying them, even though Armstrong claims that there is no specific ontological relation between them, as Lowe claims. It is important to note that, according to Armstrong, natural laws also involve universals; but, unlike what Lowe claims, he says that natural laws consist in the holding of a second order relation between first order universals. More importantly, Armstrong has named this connection a *necessitation*, rather than a *relation*.¹⁰⁹

Thirdly, as aforementioned, a particular property or mode, e.g. the redness of a particular flower, depends on its object to exist. The question arises at this point over *what kind of dependency* this is. Lowe says that it is *rigid existential dependency*; so, the particular redness existentially and rigidly depends on that particular flower. This means that there are two different kinds of relation

¹⁰⁹ This means that an Armstrongian law is supposed to consist of one property’s necessitating of another. For example, it might be a law that *F*ness necessitates *G*ness, which can be written symbolically as ‘*N(F, G)*’ (Lowe, 2006, p.162). Lowe adds that, as a consequence, any particular object which exemplifies *F*ness also exemplifies *G*ness.

between a particular object and its particular mode; namely, characterisation and rigid existential dependence. Does this mean that characterisation entails rigid existential dependency? According to Lowe, the same situation between non-rigid dependence and instantiation is true for rigid dependence and characterisation as well. In other words, he writes: “As a substance ontologist and advocate of immanent realism concerning universals, I do not believe that the relations of characterisation and instantiation are dispensable, but I am also committed to certain ontological dependency claims associated with these positions and consequently, I believe, to the indispensability of various dependence relations. However, I regard the rigid existential dependence relation between an individual object and one of its modes as being *constituted* by the characterization relation in which the mode stands to the object.” (Lowe, 2006, p.37).

Lastly, another important feature of characterisation for Lowe is that it is the main factor for the *laws of nature*. This will be discussed in the next chapter in detail, but it is worth mentioning before discussing exemplification. Characterisation is the relation between substantial and non-substantial entities in the case of both particulars and universals. For example, Fido’s particular whiteness characterises Fido; in other words, it is one of the characteristics of Fido. On the other hand, a universal property or attribute, e.g. whiteness, characterises a specific universal kind as well. It is important to realise that substantial universals are characterised by non-substantial universals, in a way which mirrors the characterisation of substantial particulars by their modes (Lowe, 2006, p.93). In the account of Lowe’s ontology, laws include the characterisation of substantial universals by non-substantial universals; or, as he claims, in the holding of relations between two or more substantial universals. For example, “benzene is characterised by burning, and water and common salt are related by dissolving” (Lowe, 2006, p.131). With these characterisations, some laws can be expressed as follows: benzene burns, and water dissolves common salt. In general, the main claim of Lowe is that laws include universals, and, additionally, involve the relation between universals (substantial and non-substantial). I discuss the cases of both the universality of Aristotelian substances and the problem of the knowability of substances in Aristotelian ontology in Chapter 5.

To sum up, characterisation is an ontological relation between an object and its modes, and, according to Lowe’s ontology, it is an *internal* relation. This is so because the existence of the object and the mode suffices for the truth of the statement that the object possesses, or is

characterised by, the mode. In this case, I highlighted why it is necessary to discuss whether modes, or particular properties, exist or not, and if they exist what kind of ontological relation there is between an object and its properties. More importantly, I asked why it is necessary to take into account properties when considering the problem of the universality and particularity of Aristotelian substances. This is the main reason why, in the case of the realist view, all particulars are instances of a universal, and they have some particular properties, because Aristotelian particular substances are not *bare*. Naturally, they should have some ontological relations with their kinds and their modes. It has been outlined that Aristotle defines these relations with the phrases *being said of* and *being in* a subject, and the second phrase signifies the formal ontological relation of characterisation. So, it is not wrong to say that modes depend for their existence and identity upon the objects which possess them. For instance, Lowe (2006, p.167) writes, “If a ball possesses a particular yellowness, then *that* very yellowness could not be possessed by any other object and could not exist unpossessed by any object whatever, free-floating and unattached. Hence, in every possible world in which that yellowness exists, the ball also exists and possesses that yellowness, so that in every such world and in no other it is true that the ball possesses, or is characterized by, that yellowness.” At this point, it is still necessary to make clearer the problem of the knowledge and particularity of substances in Aristotle’s ontology with an interpretation of a neo-Aristotelian substance theory: the Four-Category Ontology. Before discussing these problems, the last ontological relation, exemplification, between particular objects and non-substantial universals is discussed.

4.5. The Ontological Relation between Substantial Particulars and Non-Substantial Universals: *Exemplification*

Exemplification is another formal ontological relation in the *Four-Category Ontology*. This relation corresponds to the relation between substantial particulars and non-substantial universals. Lowe says that it is not a fundamental ontological relation like instantiation or characterisation, since according to his theory there is no *direct* relation between a substantial particular and non-substantial particular. A substantial particular can exemplify a non-substantial universal entity by virtue of the fact that it is characterised by an instance of that universal. For example, consider the

relation between Fido and the universal property *whiteness* by virtue of the fact that Fido is *characterised* by an *instance* of that (property) universal: *Fido's whiteness* (Lowe, 2010, p.79). Additionally, another way to make related a substantial particular and a non-substantial universal is identified as follows: a substantial particular is an instance of a substantial universal which is characterised by a non-substantial entity. In the case of the same example, Fido is white, or Fido exemplifies whiteness, because Fido is an instance of the substantial kind doghood, which is characterised by whiteness. These two kinds of exemplification are named by Lowe *occurrent* and *dispositional* relations, respectively. To make these points clearer, firstly I discuss how a substantial entity can have a universal property *occurrently* and *dispositionally*, and why it is necessary to use another kind of ontological relation to describe the relation of substantial and non-substantial entities. Then, at the end of the chapter, I discuss an unanswered question about the status of *entities* and *ontological relations*; namely, are they, themselves, universals or particulars? For example, as entities, are objects or kinds particular or universal, and are ontological relations, such as instantiation itself, particular or universal?

In the four-fold ontology of Aristotle, two kinds of ontological relations between entities are described, using the phrases *being-said of a subject* and *being present in a subject*, as aforementioned. However, in his ontology, there is no formal ontological relation to describe the relation between particular substantial entities (e.g. particular substances) and properties or non-substantial universals. On the one hand, primary substances are entities which are neither said of a subject nor in a subject; universal properties, on the other hand, are both said of a subject and present in a subject. For example, knowledge (as universal property or non-substantial universal) is both present in a subject, the soul, and it is said of a subject, such as the knowledge of grammar (*Cat.* 1b5). Likewise, the property of whiteness is being in a subject, e.g. Fido, and it is *said of* a subject, that is the particular shade of whiteness. According to Aristotelian ontology, properties are universal, since they are said of subjects; additionally they are non-substantial, since they are present in their objects. Moreover, in Aristotelian ontology, primary substances have the same ontological relation with both non-substantial universals (e.g. properties) and non-substantial particulars (e.g. modes). However, in another sense, the relation of the *being in* is quite a weak way to describe the relation between a primary substance and non-substantial universals. This is because non-substantial universals are not related to primary substances in the same way as non-

substantial particulars are related to primary substances. According to Lowe, this relation is different, and is named *exemplification* rather than *characterisation*.

How can the relation between primary substances – or objects and non-substantial universals or properties - be identified? Lowe writes that, *exemplification* is not a fundamental ontological relation, like instantiation and characterisation. In other words, objects and non-substantial universals are related to each other indirectly, rather than directly.¹¹⁰ What this means is that on the one hand a universal kind is related to its instances essentially; on the other hand, modes are dependent on their bearers, existentially, and these essential and existential criteria make the ontological relations fundamental. However, an object is related to a non-substantial universal in two ways. If a substantial object, A, has the property F, or Fness, it follows that, first, ‘A is occurrently F’, which means that ‘A possesses a mode of Fness’. Secondly, ‘A is dispositionally F’, which means that ‘A instantiates a kind, K, which possesses Fness’. Moreover, Lowe (2006, p. 125) writes:

“According to this view, properties (in the sense of *universals*) primarily characterize *kinds* and only derivatively or indirectly characterize individual substances or objects. Properties, however, can derivatively or indirectly characterize individual objects in either of two quite different ways. One way in which properties can indirectly characterize individual objects is inasmuch as those objects possess particular instances of those properties, that is, inasmuch as they possess modes which instantiate those properties. The other way in which properties can indirectly characterize individual objects is inasmuch as those objects belong to kinds which are themselves characterized by those properties.”

It is said that for an object, A, to be *occurrently F* is for that A to be characterised by some mode of Fness, while for A to be *dispositionally F* is for that A to instantiate some kind that is characterised by Fness. According to Lowe’s Ontological Square, the relation between objects and attributes is identified as a *diagonal* relation (Table 14), and Lowe does not regard exemplification as being a fundamental or primitive metaphysical relation, like instantiation or characterisation, since he believes that it comes in two different varieties: ‘dispositional’ and ‘occurrent’. Moreover, he adds that it should be noted that these two different types of relations can be described as a

¹¹⁰ *Exemplification* is not defined as a primitive formal ontological relation in this case. In other words, it is not defined in the way that Lowe regards *characterisation* and *instantiation*. Exemplification is an ontological relation which refers to the result of two other formal ontological relations, and it has two different sorts: occurrent and dispositional.

modern counterpart to the Aristotelian distinction between the *actual* and the *potential*, differing from the latter perhaps only verbally (Lowe, 2009, pp.10-11).¹¹¹ For instance, when it is said that a rubber ball is occurrently round, it is true that that ball is characterised by a mode that is an instance of the property of roundness; in other words, that round ball is round potentially. On the contrary, when it is said that the ball is dispositionally round, it means that the ball is an instance of the kind of being - ball, a substantial universal which is characterised by the property of being a ball, and it is not wrong to say that the ball is round, actually, in this way (Lowe, 2006, p.40).

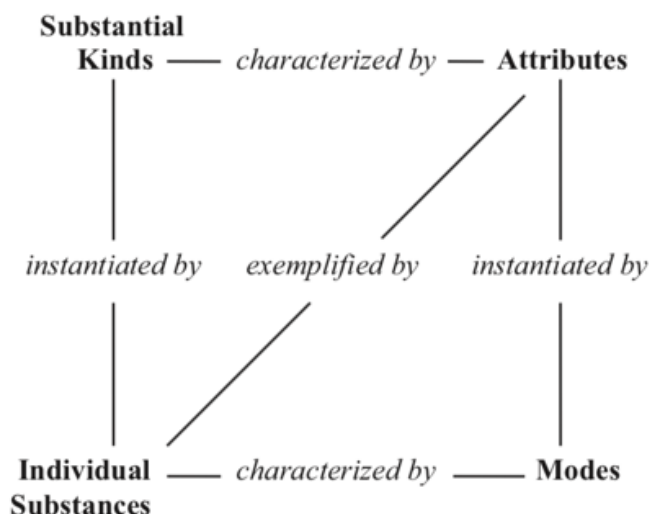


Table 14. Ontological Square II¹¹²

¹¹¹ It is useful to mention that Lowe (2009, p.11) claims that the Aristotelian distinction between actual and potential should not be confused with the metaphysical distinction between the actual and the possible. I interpret this issue as stating that if an object dispositionally (via its kind) has an attribute, this object would have the same attribute in multiple possible worlds, since it actually has that attribute. However, this is not true if the same object has the attribute occurrently.

¹¹² Lowe (2006), pp. 18-40.

In his paper, Cumpa (2012, p.205) claims that the central question of substance ontologists such as Lowe and Aristotle is: what is the reason for substances being the fundamental category? Moreover, he adds that this central question may be interpreted with regards to the ontological relation of exemplification. This is so because a substance is chosen as a bearer, and choosing a bearer implies choosing some categorical scopes determining the number of entities which could be *in* that bearer. On the one hand, bearers or particular substances are existentially independent entities, but properties are not. So, according to substance ontologies, the relation of exemplification is grounded in a dependency relation, namely the ontological dependency of properties upon particular substances. However, according to Lowe's ontology the dependence of modes upon objects is not the same as the dependency of attributes upon objects. The former refers to the relation of instantiation, and the latter refers to exemplification. As mentioned before, the former is ontologically formal, but the latter is not.

Exemplification is the relationship between a substantial particular and a property (non-substantial universal). However, instantiation is the relation between a substantial particular and its kind (substantial universal). Moreover, as discussed in this chapter, Lowe says that kinds possess properties, and this possession corresponds to the laws of nature. This relation addresses another ontological relation: namely, characterisation. All of these ontological relations can be analysed through generic statements as follows.

For example, some statements, such as “tigers are striped”, or “leopards have spots”, express some generalisations about individual members of a kind. However, when a property predicates to the kind directly, this refers to another sort of statement, rather than generalisations concerning its member. For example, tigers are becoming extinct, and as a property “becoming extinct” predicates to the substantial kind – tiger – *directly*, not only to some or most instances of this substantial kind. The latter example addresses the ontological relation of characterisation. However according to generic statements, as in the former example, the property predicates to individual instances of the substantial kind, and this addresses the ontological relation of exemplification. This is so because the particular tiger(s) is exemplified by the property of having stripes. As Lowe (2006, p.94) writes: “Generic statements of this sort have, in a certain sense, a

normative character: the most that they tell us about particular instances of a given kind is what *normal* instances of that kind are like, in a certain respect.”

After debating the various problems in the Four-Category Ontology, such as why we need to use this contemporary approach for an old Aristotelian problem and how this ontology could be interpreted as an alternative suggestion for the *aporia* in Aristotelian ontology, as well as some features of ontological relations, it is necessary to discuss the status of both ontological categories and their relations in terms of their universality or particularity. The questions which arise at this point are as follows: firstly, do the ontological categories themselves belong to the category of kinds?; and secondly, do formal ontological relations belong to the category of properties and relations? More importantly, the main question to be asked is whether ontological categories and formal ontological relations themselves universals or particulars are (Lowe, 2006, p.41). In terms of ontological categories, it seems a bit problematic to claim that they are universals, because of the defining feature of universals. A universal entity should have instances; so, if it is claimed that categories are universals, they should have some particular entities.

For example, doghood and whiteness is identified as universal entities, because they have some particular instances. On the one hand, doghood is a substantial universal and it has particular instances, e.g. Fido. On the other hand, whiteness is classified as a non-substantial universal entity, and the particular whiteness of Fido is its instance. What are the statuses of kind and property as fundamental categories in the Four-Category Ontology? How could it be possible to claim that kind and properties are **themselves** universal? If they are, they should be capable of having particular instances; so, what are their particular instances? Lowe writes that kinds and properties cannot be universals, since they cannot have particular instances, but that kinds – such as doghood – and properties – such as whiteness – are universals, and they are different *sorts* of universal entities, but they are not instances of substantial kinds or properties. So, do ontological categories qualify as particulars? They are particulars, since as aforementioned the distinction between universals and particulars is exhaustive and exclusive.

Lastly, how can the status of formal ontological relations, such as characterisation and instantiation, be identified? Lowe asks whether or not we can coherently suppose them to qualify as a relation, given what has been said about such an entity. First, when we take into account

characterisation, it is a relation between an object – Fido – and a mode of itself – Fido’s whiteness. If characterisation is a relation, that is, if it is a relational universal, it must have particular instances, these being relational modes (Lowe, 2006, p.44). The same claim is true for the relation of instantiation as well, and on this issue Lowe writes: “It seems, the Four-Category Ontology cannot accommodate the suggestion that formal ontological relations, such as characterization and instantiation, are genuine *relations*—that is, that they are elements of being (entities) belonging to the category of universals.” (Lowe, 2006, p.45). In brief, neither instantiation nor characterisation can be regarded as beings or entities.

It is useful to summarise what has been said so far about the problem and ontological relations. Firstly, one of the main problems has been analysed in the case of the Aristotelian hylemorphic ontology (*Metaphysics Zeta*), and his four-fold ontology (*The Categories*). The former is quite important in grasping some aspects of the problem over whether Aristotelian substances – or *forms* – are universal or particular. Moreover, this analysis is important for the status of the three entities involved in this problem: form, universal and particular. The latter ontology is important in showing some of the ontological relations between universals and particulars, since the main argument is that Aristotelian substances are both universal and particular, because of their ontological relation. However, the most remarkable feature of substances in Aristotelian ontology is that they are more fundamental than other categories of being. Moreover, in the case of the main problem, whether they are universal or particular, they should be either universal or particular, since a substantial entity should be more fundamental than other entities. Substantial or non-substantial universals are posterior to particular substantial entities. Another feature of substances in Aristotle is that all of the other categories are asymmetrically dependent on substantial entities, since substances are the most fundamental entities, and should be independent.

Contemporary metaphysicians reject that substances, in some sense, are the only fundamental category of being. In addition, this makes substances, necessarily, dependent on some other entities. For example, Lowe says that particular substances are necessarily instances of universal substances, or their kinds, and this makes them dependent on their kinds. Moreover, according to Lowe, everything that could or does exist is classified as an entity, and all entities are divided into two classes: universals and particulars. However, according to the traditional Aristotelian view, the most basic entity is primary substances. In the case of Lowe’s view, the question arises over

where the substantial entities are placed. It is the basic and most remarkable difference of Lowe's theory that universal and particular entities are each classified as substantial and non-substantial. It is not wrong to say that substantial universals and substantial particulars are both fundamental entities. It is the reason that, in the previous chapter, first of all the status of three entities in this neo-Aristotelian ontology has been analysed, and then the main focus of this chapter has been discussing the status and importance of ontological relations in this ontology. In particular, instantiation is an important aspect of the problem, since it is the relation between substantial universals and substantial particulars. Two problems are left undiscussed at this point in this discussion on neo-Aristotelian substance theory: firstly, the relation between knowledge and universal; and secondly, the problem of individuation.

Chapter 5 - Universality of Substances: The Problem of *Knowledge*

The main issues addressed in this project are one of the fundamental problems in Aristotle's *Metaphysics* and a new approach to that problem. In the first and second chapters, the problem of whether Aristotelian substances are universals or particulars was discussed with references to the historical background, especially Aristotle's *Metaphysics* and *Categories*. In chapters three and four, an alternative method and a neo-Aristotelian substance theory, namely the Four-Category Ontology, have been taken into account in terms of the primary argument for the main *aporia*, which is that Aristotelian substances are both universals and particulars, due to the ontological relations between universal and particular entities. According to Lowe, some universal entities, namely kinds, and various other particular entities, such as objects, are substantial, and these entities are ontologically dependent on each other. Particular objects are instances of kinds, and kinds are instantiated by their instances, or particulars. This new ontology is quite important in terms of discussing the nature of universal and particular entities and their *substancehood*, and this ontology is inspired by the *four-fold ontology* of the *Categories*. However, the main difference between Aristotelian *four-fold ontology* and Lowe's Four-Category Ontology concerns ontological dependency between universal and particular entities. According to the general conclusion of Aristotelian ontologies, in both the *hylomorphic* and *four-fold ontologies*, all categories or entities such as non-substantial entities and secondary substances, or kinds, **depend on** particular entities, or primary substances. Lowe claims, however, that this dependency is not one-way, and that primary substances depend on their kinds, because they are instances of kinds; this is the reason why it is not wrong to claim that what Aristotle means by *substantial* is something which belongs both to *some* universal entities and to particular entities. This is the reason why the ontological relations, namely instantiation, characterisation and exemplification, was discussed in the previous chapters.

In terms of the results of the Aristotelian ontology, there is a discrepancy between the most real things and the most knowable things, since he implicitly or explicitly claims that only particular entities are *substantial*, but only universals are *known*. However, many passages in his works show that *knowledge is of what is most real*, as has been shown in the previous chapters. So, the main

business of this chapter is discussing the universality of substances in terms of the problem of knowledge, since, for example, it is still unclear how particular entities can be known. Moreover, according to contemporary metaphysics, universal entities have an important role in terms of knowledge, and they are quite important for the *laws of nature*. I discuss the Aristotelian problem of knowledge by linking it to the problem of the laws of nature, since *substantial universals* play key role in both problems.¹¹³ Before discussing the nature of universal entities - kinds and properties - in the Four-Category Ontology, and the relation between universals and the laws of nature, it is useful to summarise the problem of knowledge in the case of Aristotelian substance theory.

The purpose of this chapter is to examine the problem of knowledge, and the role of universals and particulars in this problem, from the Aristotelian and Lowenian perspectives, especially the epistemological side of the Aristotelian *aporia* supporting the view of the universality of substances. I mention several arguments for the universality of substances in Lowe's ontology, and discuss the correlation of universals with the problem of knowledge. In the first chapter, it was discussed that some claim that Aristotle's substances are particulars, while others say that they are universals. Aristotle discusses this problem through an *aporia* in the *Metaphysics*. According to supporters of the view of particular forms, the substantial form of each particular entities is itself particular as well, although those particular entities may share the same definition with other particular of the same kind. However, according to supporters of the view of universal forms, particulars which belong to the same kind are distinct from each other only because of their matter; they are all the same formally and substantially.

In the *Metaphysics*, Aristotle repeatedly claims that *no universal can be substance*, and the conclusion of the *Metaphysics* shows that the primary substances are the particular substantial forms. However, in the case of the problem of knowledge, Aristotle insists that knowledge is of universals, and naturally the problem of the knowledge of particular substances arises. In the *Zeta*,

¹¹³ Universals are the main objects of knowledge and definition in Aristotelian ontology. On the other hand, these kinds of entities have a key role to discuss laws of nature, and the problem of universal truth for contemporary metaphysics.

Aristotle claims that substance is prior in many aspects; in time, in definition and in knowledge.¹¹⁴ So, how is it possible to say that substance is prior in case of knowledge, if he claims that knowledge is of universals and that primary substances are particular forms? This critical problem is known as the discrepancy between the most real things (particular substances) and the most knowable things (universals) (Heinemann, 1981, p.65; Leszl, 1972, p.278). This discrepancy makes Aristotelian ontology and epistemology separated in a sense. This is so because the particular entity (matter and form, or the particular form of a compound) is the basic entity in the view of his ontology. However, in terms of Aristotelian logic or epistemology, what is universal is the most intelligible, and if it is claimed that what is the most knowable is what is most real, then universals are ontologically basic as well (Leszl, 1972, p.278).

Moreover, this discrepancy shows that there are two main problems in the Aristotelian substance theory, especially with regards to the main *aporia* (whether forms are universals or particulars): (1) the substancehood of universals; and (2) the knowledge of particulars. The first is problematic, because it is the general conclusion of both the *Metaphysics* and the *Categories* that primary substances are *tode ti* (“something this”), particular entities or objects. The reason for the second problem is that Aristotle explicitly claims that the universal is what is most definite, and knowledge is what is most definite, hence, of universals. Moreover, he maintains that primary substances are particular; they cannot be the object of knowledge. Leszl (1972, p.282) claims that these problems arise because of Aristotle’s own philosophical system. This means that the reason for the first problem is that in his system particulars are identified as real or substantial things, but universals are less real than particular substances. Moreover, in his own philosophical system, claiming that knowledge is of universals raises two questions: how can something less real - universal - be epistemologically prior to particulars - something the most real?; and how can particulars be known, if it is claimed that knowledge and definition only belong to something common but not particular? According to the claim of the **mutual dependency** of universal and particular entities, especially in the case of the first problem, it is claimed that universals are instantiated by particulars; so, it was not wrong to say that they are substantial, and in the same sense is it possible

¹¹⁴ “Now, there are several senses in which a thing is said to be primary; but substance is primary in every sense — in formula, in order of knowledge, in time. For of the other categories none can exist independently, but only substance” (*Met.* 1028a32).

to say that particulars are knowable, at least as instances of their universal kinds. I discuss this at greater length in this chapter.

5.1. Universals as the Object of Definition and Knowledge

From the epistemological point of view, universals in Aristotelian *Metaphysics* have an important role, and priority, because he explicitly claims that knowledge is of universals. From the ontological point of view, however, particulars are prior to universals, since they are substantial, and all other entities require particulars or primary substances to exist. It is claimed that universals and particulars are *mutually and necessarily dependent entities*, and this is claimed by means of the essentialism of the *Categories* and the new methodology of the Four-Category Ontology.¹¹⁵ Moreover, I argue that the same *mutual dependency* is true from the epistemological point of view, hence there is no sharp division between universals and particular. As aforementioned, Aristotle repeatedly claims that knowledge is of universals. This claim raises at least three difficulties; (1) how is it possible to claim that the most knowable things are the most real? ¹¹⁶; (2) if it is possible, how it is said that particulars are the most real entities rather than universals? and (3) if particulars are the most real (as Aristotle insists) and universals are the most knowable, how is the knowledge of particulars possible? For all of these questions, in the *Metaphysics*, Aristotle provides arguments. The reason why, firstly, these passages are seen as a historical background to the problem of knowledge and universals, and secondly why contemporary metaphysicians discuss these problems and the role of universals, especially with regards to the laws of nature, will be outlined.

Before discussing all of these issues, another important question arises over what Aristotle means by the claim that knowledge is of universals. As has been mentioned, Aristotle claims that knowledge is of universals, and in the *Metaphysics* he says that knowledge is of forms; this is the main argument for the supporters of universal forms in the debate over Aristotelian ontology. It is

¹¹⁵ See Chapter 3 and 4.

¹¹⁶ *Post. A.* 70b34

useful to ask what kind of knowledge is this which belongs to universals only. In other words, are there any other kinds of knowledge as well? Also, how is it possible to talk about knowledge of particulars, especially if it is claimed that primary substances are particulars? According to Baylis (1970, p.50), the relation between knowledge and universals is identified as follows: “The existence of communicable knowledge requires shared meanings. Such knowledge, in its simple form, is knowledge of the common characters exhibited by various objects and events. In the more advanced form of scientific knowledge it is knowledge of the interrelations of these characters in all their possible instances.” This passage helps to show what Aristotle means by knowledge of universals.¹¹⁷

Firstly, in the *Categories*, Aristotle does not speak about knowledge, but he says that it can be asked *what is it*, not only for universals but also for particulars. What this means is that in respect of the essentialism of the *Categories*, it is said that primary substances are knowable. However, the main problem in this case is that they cannot be known by their *particularity*; they can be known only thanks to secondary substances. As Aristotle says:

“It is reasonable that, after the primary substances, their species and genera should be the only other things called secondary substances. For only they, of things predicated, reveal the primary substance. For if one is to say of the individual man what he is, it will be in place to give the species or the genus (though more informative to give man than animal).” (*Cat.* 2b29-33)

This passage obviously shows that the answer to the *what is it* question, not only in general, but also for all primary substances or objects, is their definition, which is given by their *genus*, *species* or *differentia*. In the *Categories*, it is difficult to say that Aristotle claims that knowledge is of universals, but it is also quite hard to see that he accepts the knowledge or definition of particulars in case of their particularity. In other words, it seems that particulars cannot be known *qua* particular, but *qua* instances of a species.

The distinction between primary substances and secondary substances in the *Categories* is connected to some of the problems in the *Metaphysics*, but mostly it is related to the problem of

¹¹⁷ According to Baylis (1970, p.57) the universal which is the object of knowledge has three different classes.

- 1- Characteristics; those universal characters which are exemplified whether thought of or not
- 2- Concepts; those universal characters which are conceived whether exemplified or not.
- 3- Pure universals; those abstract characters which are neither exemplified nor conceived.

the knowledge of primary substances. Aristotle writes that primary substances are particular, but whether they can be known as particulars *qua* particulars, or they are only known as a member of secondary substances, is one of the main problems in the *Categories*. On the one hand, according to the ontology of the *Categories*, existence is only due to particulars, since Aristotle explicitly writes that “nothing exists unless primary substances exist” (*Cat.* 2b7). On the other hand, in the case of the main *aporia*, it is claimed that there can be no proper object of knowledge if nothing exists separately from particulars.

Secondly, in terms of the *Metaphysics*, it has been mentioned that Aristotle’s way of discussing the status of universals and particulars causes difficulties. When he formulates the *aporia* of whether principles (form, or substance) should be universal or particular, his method of formulations assumes that the principles must be *either* particulars or universals.¹¹⁸ However, he uses another formulation in the *Metaphysics*, especially for the claim that “knowledge is of universals”, and, inherently, that particulars cannot be known. In book M10 he divides two kinds of knowledge, namely potential and actual knowledge, as follows:

“The statement that all knowledge is universal, so that the principles of things must also be universal and not separate substances, presents indeed, of all the points we have mentioned, the greatest difficulty, but yet (1) the statement is in a sense true, although in a sense it is not. For knowledge, like knowing, is spoken of in two ways — as potential and as actual. The potentiality, being, as matter, universal and indefinite, deals with the universal and indefinite; but the actuality, being definite, deals with a definite object — being a ‘this’, it deals with a ‘this’. But *per accidens* sight sees universal colour, because this individual colour which it sees is colour; and this individual *a* which the grammarian investigates is an *a*. For if the principles must be universal, what is derived from them must also be universal, as in demonstrations; and if this is so, there will be nothing capable of separate existence — i.e. no substance. (2) But evidently in a sense knowledge is universal, and in a sense it is not.” (*Met.* 1087a10-25).¹¹⁹

The above passage is important in terms of the problem of knowledge, but it is still unclear for two main reasons. First, in terms of whether the statement that knowledge is of universals is true or

¹¹⁸ “If they are universal, they will not be substances; for everything that is common indicates not a ‘this’ but a ‘such’, but substance is a ‘this’” (*Met.* 1003a8). “If they are not universals but of the nature of individuals, they will not be knowable; for the knowledge of anything is universal. Therefore, if there is to be knowledge of the principles there must be other principles prior to them, which are universally predicated of them” (*Met.* 1003a19).

¹¹⁹ Numbering by myself

not, Aristotle explicitly writes that it is not clear *twice* only in this passage (it is shown by numbers above). Secondly, if he says that universal knowledge is of potentials, the question arises over of what those universals are potentials. Are they potentials of particulars, or, maybe, higher universals? This passage is quite important, because, at the very least, we may have a solution to the problem of the knowability of particulars; so, they can be known. However, this is quite ambiguous for the two reasons mentioned above. According to various interpretations, what Aristotle means in this passage is that knowledge of universals is potential knowledge of particulars. This is so because particulars can be known by *actualising* universal knowledge. Moreover, it seems that this interpretation is consistent with what Aristotle claims in the *Posterior Analytics* in the case of the problem of knowledge; for example, the idea that particulars are knowable qua members of the same species is compatible with that interpretation. In short, according to the Aristotelian suggestion in M10, he explicitly reduces the knowledge of universals to the knowledge of particulars, but it should be mentioned that universal knowledge is the potential knowledge of particulars which are instances of a kind, not particulars *qua* particulars. So, it is now obviously claimed that the ontological relations between particulars and universals (what I call *mutual dependency*) is true in terms of the problem of knowledge. What this means is that universals cannot exist without particulars, cannot actually be known without the particulars which are instances of those universals.

As a result of the discussion of the problem of knowledge in Aristotle's substance theory, especially from the point of view of the Aristotelian background to the discussion, I claim that the Aristotelian solutions, even in M10, do not represent a concrete solution to the problem. What I mean by this is that Aristotle presents the conclusion which he reaches in M10 for the main problem of knowledge in *Zeta*, but he still does not make clear the status of universals in the problem of knowledge, and secondly the knowability of particulars is still problematic. This is so because it seems that the Aristotelian division of potential and actual knowledge only suggests a way between the horns of the main *aporia*, whether principles or substances are universals or particulars, but does not exactly reach a solution. I suggest that the ontological relation between universals and particulars is true for their epistemological status as well. What this means is that Aristotle faces a serious dilemma in M10, in that if knowledge must be universals, and if substantial forms cannot be universal, but are particular, then they are not knowable. The main

problem of Aristotelian substance theory is supposed to have been solved in M10, but it is quite ambiguous in terms of approaching the problem from the aspects of actuality and potentiality. I argue that the problem of knowledge or the epistemological side of the problem of substance theory is solved by taking into account the ontological relation between universals and particulars, as I have suggested for their ontological status. Knowledge and definition are of universals, which are instantiated by particulars. In the same sense, particulars are instances of universals, and they are the objects of knowledge through the link of their kinds, or universals. I discuss this in conjunction with an examination of Lowe's Four-Category Ontology and his discussion on the laws of nature, since, in his ontology, laws consist of the characterisation of substantial and non-substantial universals.

5.2. Universals as the Object of Laws of Nature

Lowe's Four-Category Ontology includes two kinds of universals¹²⁰, and the ontological relation of these universal entities plays a key role in grasping the status of universal entities in the problem of knowledge related to *laws of nature*. In the sense of the problem of the status of Aristotelian substances, whether they are universal or particular, their *knowability* has a significant point. This is so because, as mentioned above, Aristotle explicitly and insistently claims that *knowledge is of universals*. Although Aristotelian literature has many explanations about what this means, and Aristotelian scholars interpret what Aristotle really claims by this sentence, it is still ambiguous in some cases, especially, for example, knowledge of particulars and the status of universal entities. It is the reason why the main business of this chapter is bringing another approach to the problem of knowledge from a neo-Aristotelian perspective. Universal entities, for both Aristotle and for neo-Aristotelian scholars, are important in terms of the problem of knowledge. However, in Lowe's ontology, universal entities and their relations correspond to *laws of nature*. The first thing I point out is the description of laws of nature and their relationship with universal entities, especially in Lowe's and Armstrong's ontologies. Secondly, I discuss this at greater length in connection with the problem of knowledge of particular entities. Later, as the main reason for these

¹²⁰ Some characteristics of universal entities have been mentioned in Chapter 3. In short, there are two kinds of universals in The Four-Category Ontology: Kinds (substantial universals) and Attributes (non-substantial universals).

debates, I argue that the *universality* of Aristotelian substances is the main object of knowledge, using Lowe's language and laws of nature.

It has been discussed ¹²¹ Lowe (2010) claims that there are three main reasons to defend why a substantial ontology requests two different, but *both* fundamental, sorts of *universals*.¹²² These three reasons are instantiation, individuation and laws of nature. Instantiation, as a relation between substantial kinds and their instances, is discussed in Chapter 4. Now, the main theme of this chapter is the discussion of the problem of laws of nature and individuation, in connection with the problem of knowledge, and particularity in Aristotle's substance theory. Specifically, in this chapter, I consider universals as entities for the problem of knowledge on the one hand, and the subjects of natural laws on the other hand. It is traditionally accepted that universals have been called upon to solve the problem of the theory of knowledge since Plato. According to many views, including that of Aristotle, something *known* must be *unchanging*. Moreover, Aristotle explicitly writes that material objects are unknown, since they are the subject of the change.¹²³ This view, obviously, brings forward the claim that knowledge is of universals, and knowing something is completely about that thing's essence, or what it is. It is said that universals are needed to understand the unchanging laws of nature, since a law of nature is a relation among universal entities. It has been discussed above how the status of universal entities in the Aristotelian theory of knowledge are related to his substance theory. Now, it is useful to show the relation between universal entities and stable laws of nature.

Universals are the primary objects of knowledge and definition in Aristotle's account.¹²⁴ On the other hand, as previously mentioned, they are basic entities in Lowe's ontology, and objects of

¹²¹ See Chapter 3.

¹²² The two kinds of universals in the Four-Category Ontology are substantial (kinds) and non-substantial (attributes). The former corresponds to the question of what it is, and the latter refers the question of how it is. For example, a horse is what Dobbin is; however, if Dobbin is white, this explains how it is. As a general picture, an individual particular substance - e.g. Dobbin - possesses a certain form, as a sort of its own particular form, which corresponds to substantial universals. On the other hand, Dobbin, and naturally its kind, possesses some features which are its attributes, or non-substantial universals.

¹²³ "There is neither definition nor demonstration of sensible individual substances, because they have matter whose nature is such that they are capable both of being and of not being; for which reason all the individual instances of them are destructible." (*Met.* 1039b25).

¹²⁴ See Chapter 1.

laws of nature. According to Lowe, natural laws include non-substantial universals and substantial universals, according to the ontological relation of *characterisation* between them. There is no any clear statement on natural laws in Aristotle's works, but his arguments about knowledge, definition and scientific knowledge are related to the problem of laws of nature. The main reason for this relation is that for both ontological accounts, universals are the main objects in the case of scientific statements. For this reason, I discuss laws of nature only in terms of the relation of universal entities, namely kinds and attributes, using Lowe's language.

Firstly, it is the main problem of Aristotle's substance theory that he claims that knowledge and definition is of universals, and definitions state the essence of a thing, or what it is to be that thing¹²⁵; however, he claims in the *Zeta* that no universal can be a substance. On the one hand, he makes universal entities the primary principles for all of the statements of science in his account of knowledge. Universals, on the other hand, depend on particular entities in the very sense of his *hylomorphic* account of the *Metaphysics* and the traditional interpretation of the *Categories*, as mentioned in Chapter 1. According to the account of knowledge, if there is to be scientific knowledge at all, then there must be *primary premises*; in other words, primary causes, or substances. Moreover, these premises are necessary truths, since their conclusions are *necessary* as well, and they are universal. So, in general, universal entities are used by Aristotle as follows: a truth is expressed by a proposition of the form "All Xs are Y", or X is Y, where it is always the case that all Xs are Y, then X is Y *in itself*.¹²⁶ This means that X occurs in the definition of Y, or *vice versa*.

Secondly, In Lowe's ontology, substantial universals are *characterised* by non-substantial universals, as discussed in the previous chapter. For example, roses (a substantial kind) are red (a non-substantial universal) is a statement, but the main question which arises at this point is are all roses red? In other words, are all kinds of *characterisation* deemed to be lawlike statements? These questions are vital, because Lowe defines laws of nature as the possession of some universal properties by some kinds (substantial universals). He writes: "Quite literally, it is a law concerning

¹²⁵ He explicitly writes that "Definitions are thought to be of what something is and what something is in every case universal." (*Post. A.* 90b5). So, this means that definition states the essence of a thing. It is not wrong to say that definition is of essence (what something is) and universal, hence universals are essence. It is the main supportive argument for the proponent of universal substances in his ontology.

¹²⁶ "Something holds of an item in itself, both if it holds of it in what it is, and also if what it holds of itself inheres in the account which shows what it is." (*Post. A.* 73a35)

the *nature* of things of the kind in question. For example: common salt's being water-soluble is such a law, as is rubber's being elastic (or 'stretchy')." (Lowe, 2006, p.132). When these two examples are compared, the redness is a *character* of roses, but not of *all* roses. However, salt's being water soluble is law *de facto*. The differences between these two cases will be made clearer, but it is obvious that, for both cases, characterisation is the ontological relation between substantial universals and non-substantial universals. This ontological relationship is identified as the form of a law, and in the simplest case can be described thus: substantial kind *K* is *characterised* by *Fness*, or, even more simply, *K* is *F* (Lowe, 2006, p.132). This formulation shows as well that laws are not like an ordinary relation between universals, they are more things in the world which we try to discover; in this sense, they are facts, or are like them (Bird, 1998 p.25). On the account of such laws' connection with universals, it is said that they correspond to scientific knowledge, and this knowledge is knowledge of the interrelations between their characters (non-substantial universals).

If not all characterisations between universal entities are laws, how are they separated from all statements? In other words, what is the difference between a universal truth and a law? Dretske (1977, p.251) writes that many philosophers have argued that the distinction between a natural law and a universal truth is not fundamentally an intrinsic difference. What this means is that a law is nothing but a universal truth; it has the same empirical content, and he adds that the basic formula is law=universal truth+X. X is intended to indicate the special function, status or role that a universal truth must have to qualify as a law. Another possible answer to that question is that some universals are in ontological relations *necessarily*, and this is why they are laws of nature, but not all relations of universals are laws of nature. It is the view of Armstrong (1983) that a law is a state of affairs¹²⁷ which consists of one universal's standing in a relation to the *necessitation* to another; that is, it consists of *Fness* necessitating *Gness* (Lowe, 2006, p.143). Lowe's own account, in contrast, is that laws consists on the characterisation of substantial universals (kinds) by non-

¹²⁷ "According to Armstrong's development of the view, the framework characteristic of universals is shown as follows: suppose it to be a law that *F*s are *G*s. *F*-ness and *G*-ness are taken to be universals. A certain relation, *necessitation*, holds between *F*-ness and *G*-ness. This state of affairs may be symbolised as '*N(F,G)*'. The logical form of a law of nature, according to Armstrong is *N(F,G)*, where *N* denotes a second-order universal of natural necessitation, relating the first-order universals denoted by *F* and *G*. So, according to this account, a law statement expresses the state of affairs of *Fness* necessitating *Gness*" (Lowe, 2010, p.80).

substantial universals (properties), or in the holding of relations (that is, relational universals) between two or more substantial universals. For example, *benzene* is characterised by *burning* and *water*, and *common salt* is related by *dissolving*. It is in precisely such terms, after all, that we actually express these laws: we say that *benzene burns* (benzene is flammable) and that *water dissolves common salt* (Lowe, 2006, p.131). One of the main reasons Armstrong's view of laws requests a second-order relation of necessitation is that he does not distinguish universal entities as substantial and non-substantial entities. This means that laws include the necessitation of property-universals, since he rejects the existence of substantial universals.

Thirdly, the idea that laws involving universals has been defended by many philosophers, notably as David Armstrong (1983), Michael Tooley (1977) and Fred Dretske (1977). However, Lowe's account has differences from these three philosophers' accounts of laws. In brief, they, especially Armstrong claim that laws are states of affairs that are the truthmakers of law-statements, and Lowe agrees with that. However, Lowe does not accept that states of affairs are ontologically basic, and, accordingly, they are the *basic* truthmakers of law statements (Lowe, 2010. p.79). He accepts and claims that substantial universals are these basic truthmakers. Lowe's account also contradicts neo-Humean regularity accounts, since their main claim is that law statements express *universal generalisations*. In general, however, a natural law, in the view of Lowe, has the form "F is G", and in this case "F" corresponds both to the mass noun or the count noun. When it corresponds to the count noun, it should be formulated as "Fs". His own examples show the point more clearly, as follows:

"Gold is electrically conductive', 'Electrons have unit negative charge' or 'Planets move in elliptical orbits', where these so-called *generic* propositions are by no means logically equivalent to the corresponding universal generalizations quantifying over particulars, such as 'For all *x*, if *x* is an electron, then *x* has unit negative charge' or 'For all *x*, if *x* is a planet, then *x* moves in an elliptical orbit'. Thus I too, like Armstrong, conceive of laws as involving universals rather than particulars, but distinguish, as Armstrong does not, between *substantial* universals, or *kinds*, and *non-substantial* universals, or *properties and relations*." (Lowe, 2006, p.144)

As mentioned above, Armstrong's view on natural laws is quite familiar to what Lowe claims, since these both view explicitly make reference to universals. The main difference, however, is that Lowe's natural laws include substantial universals beside non-substantial universals. Armstrong's account of laws says law is state of affairs which consists of one universal's standing in relation to the necessitation of another; that is, which consists in *F*ness necessitating *G*ness, for

certain properties (first-order universals) (Lowe, 2006, p.143). Another account of laws of nature is called the regularity account.¹²⁸ It is also referred to as the Humean account of laws, and mainly claims that a law is simply a universal *generalisation*. Armstrong's view, indeed, is an alternative approach to the regularity account, because he claims that laws are not *merely* universal generalisations, they are the *necessitation* of these.¹²⁹ According to this view, the logical form of a law, in the simplest case, is ' $N(F, G)$ ', or ' F -ness necessitates G -ness'. Such a law is then supposed to *entail* the corresponding universal generalisation concerning particulars, namely, 'For all x , if Fx , then Gx ,' although the latter does not, of course, entail the former (Lowe, 2006, p.143).

In summary, the main difference between Lowe's account and other accounts of natural laws is that his account invokes both substantial universals and property universals, or attributes, as he calls them. Moreover, there is no second-order relation between universals, such as necessitation. Lowe summarises his account with the known example of Kepler's first law of planetary motion, as follows:

"Planets orbit elliptically – that is, move in elliptical orbits. This indeed has the form ' $\phi s F$ ', with ' ϕ ' being replaced by the sortal term 'planet' and ' F ' by the predicate 'orbit elliptically', which expresses a property universal. By contrast, on Armstrong's account, the canonical way to express this law would have to be something like, 'Being a planet necessitates orbiting elliptically,' while on a neo-Humean regularity account it would be something like, 'Anything that is a planet is a thing that orbits elliptically.'... The four-category ontology has a very clear way to explain the truth-conditions of such sentences, when they are used to express laws, namely: ' ϕF ' is true if and only if the attribute F ness characterizes the substantial kind ϕ ." (Lowe, 2010, p.80).

¹²⁸ "A law of nature is just some regularity that holds true in nature. A regularity, which constitutes a law, can be thought of in terms of a universally quantified conditional, $\forall x (Fx \rightarrow Gx)$, which says that anything that has the property F has the property G . For example, all ravens are black, all electrons are negatively charged, all unsupported objects fall to the ground, all humans are mortal, any charge repels its like and attracts its opposite, and so on" (Mumford, 2007, p.42).

¹²⁹ In *What is a Law of Nature?*, he simply summarises his view on natural laws as follows: "We need, then, to construe the law as something more than a mere collection of necessitations each holding in the individual case. How is this to be done? I do not see how it can be done unless it is agreed that there is something identical in each F which makes it an F , and something identical in each G which makes it a G . Then, and only then, can the collection of individual necessitations become more than a mere collection. For then, and only then, can we say that being an F necessitates being a G and, because of this, each individual F must be a G . But this is to say that the necessitation involved in a law of nature is a relation between universals." (Armstrong, 1983, p.72)

In this case, the question arises over why a universal-based account of laws involves substantial universals, and why it does not only invoke property universals. This question may be broken down into other questions, such as, why are substantial universals needed for natural laws, or why can they not be reduced to the property universals? According to Lowe, a universal-based approach which rejects substantial universals can be more parsimonious than the other account, which involves substantial universals with regard to natural laws (Lowe, 2010, p.82). What Lowe means is that some laws as states of affairs, like Armstrong claims, do not exist at a fundamental ontological level. This is because, in Lowe's ontology, substantial kinds are the basic truthmakers of the laws of nature. For example, the law is that electrons are unit-negatively charged. In the case of this law, being unit-negatively charge is an *essential property* of electrons, and in every possible world in which electrons exist, it is true that electrons are unit-negatively charged. In this case, electrons - as substantial kinds - are the truthmakers of the law-statement.

Lastly, it should be noted that particular and sortal terms may be the subject of sentences in ordinary English, whether with the dispositional or occurrent predication.¹³⁰ For example, in the statement "this piece of salt dissolves in water", this piece of salt is the object of dispositional predication. "Salt is dissolving in water" is an example of the occurrent predication, on the other hand. The reason why these predications are pointed out is that Lowe identifies natural laws as being most naturally expressed as dispositional predications, with sortal terms in the subject position, such as in the following examples: "Fire burns, Ravens are black." (Lowe, 1980, p.254). So, all of these examples in Lowe's approach show that the subject of laws of nature are not only property-universals or attributes, as Lowe calls them, but substantial kinds, or sorts; or, from a linguistic perspective, sortal terms. A natural law involves a universal (substantial) as a subject, and non-substantial universal(s) as predicating (dispositional) to that subject.¹³¹

¹³⁰ This distinction mainly corresponds to the distinction of potentiality and actuality in Aristotle, respectively. So, (1) a particular substance is an instance of substantial universal or kind which is characterised by the non-substantial universal. On the other hand, (2) a particular substance is characterised by its modes, which are instances of attributes (non-substantial particulars). The first statement is an example of dispositional predication, and the second is occurrent predication.

¹³¹ The distinction between occurrent and dispositional predication may be summarised as follows: "Occurrent predication involves the attribution to an object of some *mode* of a property: that is, it involves the attribution to an object of a property-instance or trope which instantiates some property (in the sense of *universal*). By contrast,

It is useful to bear in mind that both Armstrong's and Lowe's ontologies are based on immanent realism, where the universal exists only in their instances. This means that there are no uninstantiated universals, therefore there are no uninstantiated laws. According to immanent realism, each universal entity (for both substantial and non-substantial universals) must have particular instances, and the nature of laws which consist of universal entities (substantial and/or non-substantial) should have some instances. In other words, this means that all natural laws, in the case of immanent realism, must be instantiated to be real. Moreover, at this point it is useful to discuss the status of particular instances of natural laws, in the case of the problem of knowledge. According to Armstrong, then, it seems to be that the particular instances of a law relating *F*-ness to *G*-ness will be particular cases of something's being *F* bringing about something's being *G*. (Lowe, 2006, p.144). So, if Armstrong is right about the laws of nature and necessitation, it will follow, for example, that: (1) if *F*-ness necessitates *G*-ness, then this entails that everything which is *F* is also *G*; (2) instances of *F*-ness may only coincidentally also be instances of *G*-ness, without there being any necessitation; therefore it is not wrong to say that (3) *a*'s being *G*, because *a* is *F* (*a*'s being *F* necessitates *a*'s being *G*) (Bird, 1998, p.44).

5.3. Particulars and Laws of Nature

The relation between natural laws and universals has been shown above, and at this point some questions arise about laws of nature, and their relations with *particular entities*. As mentioned before, not all statements which include universals (kinds or attributes) count as law, and the main question is what must a statement be to count as a law in nature? According to Mumford (2004, p.8), there are basically two things which could make a statement a natural law, namely being in nature, and being in law. At this point, is useful to discuss, before discussing laws and whether they have particular instances, various questions, such as what makes something a natural law,

dispositional predication involves the attribution of some property (in the sense of *universal*) to an object's substantial *kind*. More precisely, the proposal is this. A sentence of the form '*a* is occurrently *F*' means '*a* possesses a mode of *F*-ness', whereas a sentence of form '*a* is dispositionally *F*' means '*a* instantiates a kind *K* which possesses *F*-ness'." (Lowe, 2006, p.125)

and, additionally, do they really exist? This is so because I discuss the main problem of Aristotelian substance theory in the sense of *realism*, especially in case of the status of universals.¹³²

On the one hand, in terms of the realist approach to laws, it is not wrong to say that there are natural kinds in nature, and as it is defined, natural kinds are the principles of laws. However, according to some other realist views¹³³, natural kinds are reducible to properties, and this is the reason why natural laws include only these kinds of universal entities, as aforementioned.¹³⁴ So, if it is accepted that there are natural kinds (universal sorts, in other words) which exist in nature, it is natural to claim that laws are not external to the things that they govern, because they do not exist independently of them, so it is not wrong to say that they really exist. Mumford (2004, p.30) writes on the status of natural laws as follows: “A natural kind could be understood simply but broadly as any kind of thing that exists naturally. Understood so broadly, nomological realists must be claiming that laws are a natural kind of existent. Laws exist naturally, in that they are what they are whatever we may think of them, and they are a kind in that they are a distinct class distinguishable from others (at least epistemically), such as properties, events, objects and causes.”

On the other hand, the question arises over whether a law, itself, is universal or particular. Or, in other words, what is the relation between a law and a particular instantiation of the law, where the law is a relation between universals? If the law is a universal, and its instantiations a particular of the universal, then, like any other universal, the law will be fully present in each instantiation. According to Armstrong (1983), natural laws are states of affairs, and these are particulars, not universals.¹³⁵ However, what Lowe thinks about the particular instances of natural laws, related to the problem of knowledge, and how it may be discussed in terms of the problem of the knowledge of particular instances, is shown as follows:

¹³² “Metaphysics plays a role in the grasping natural laws. One of the main reasons for this is that science does not speak about general terms, especially if natural laws are interpreted by a realist approach. Therefore, it is the business of metaphysics to indicate what it is to be a law of nature” (Mumford, 2004, p.12).

¹³³ See Armstrong (1978), Mumford (2007).

¹³⁴ In Chapter 3, it is discussed why kinds, or substantial universals, are requested for such a realist neo-Aristotelian ontology, besides properties, or attributes (non-substantial universals).

¹³⁵ “I have said that a state of affairs such as N(F,G) was not a universal, but a particular.” (Armstrong, 1983, p.14).

- 1- KINDS: Rubber is elastic: it is a natural law, and in terms of Lowe's interpretation, it includes two universals. The first is rubber (substantial universal / kind), and the second is elastic (or being elastic) (non-substantial universal / attribute). This statement also corresponds to other statements, such as rubber is stretchy; in this case, the kind in question is rubber, kinds have instances, and rubber has particular instances, such as a particular piece of rubber.
- 2- OBJECT: A particular piece of rubber is elastic. According to Lowe's account of the Four-Category Ontology, the subject of the statement (a particular piece of rubber / an object) is an instance of its kind - rubber. Moreover, in this case, a particular has a certain possession, namely *being elastic*. This means that objects possess their various natural 'powers' by virtue of belonging to substantial kinds, which are subject to appropriate laws — these laws consist of the possession by such kinds of certain properties.¹³⁶
- 3- RELATION: Lowe writes that some particular piece or portion of rubber — that is, an *particular substance* or *object* which is an instance of the kind *rubber* — *is stretching*. This is, indeed, precisely to say that the kind in question is 'indirectly' characterised by the non-substantial universal in question, by virtue of the kind possessing an instance which is characterised by a mode of that non-substantial universal (Lowe, 2009, p.127-128).

However, according to Armstrong, the relations between universals, like laws, are *abstractions*. The question at this point is what are they abstractions from? If it is suggested that laws of nature are relations and universals, they are abstractions from the particulars which instantiate the law. For example, if Fs are Gs, the particulars instantiated by the law seem to be pairs of states of affairs, such things as a's being F, and a's being G (Armstrong, 1983, p.16).

The answer to the question of whether natural laws are universals or particular is that laws exhibit at the level of universals (Lowe, 2006, p.159). Naturally, for a realist approach to the problem of

¹³⁶ "Individual objects possess their various natural 'powers' in virtue of belonging to substantial kinds which are subject to appropriate laws — these laws consisting in the possession by such kinds of certain properties (in the sense of universals), or in the standing of kinds in certain relations to one another. And notice that, in expressing laws themselves, we naturally have recourse to *dispositional* predication." (Lowe, 2006, p.126)

natural laws, and as shown above by an example, a natural law has particular instances. The structure of particular laws is exactly parallel with the structure of natural laws, which are those particulars sorts in a sense, especially in Lowe's ontology. What this means is that, as aforementioned, the relation between two universals (one is substantial, another is non-substantial) is characterisation, or dispositional predication. So, this sort of fact is shown with a singular statement of the form; for example, this aqua regia is dissolving this gold. Moreover this fact consists in the holding of a *particular* relation — a relational *mode* — between two particular objects, one of them an instance of the kind aqua regia, and the other an instance of the kind gold (Lowe, 2006, p.160).

However, Lowe does not accept that natural laws themselves are universals; at least, he claims that they are not universal, and they do not have the nature of universal entities, as universal entities themselves. The reason for this is that even though there are no any particular instances of natural laws in the world, these laws can hold in the world (Lowe, 2006, p.172). However, Lowe says that it is not *completely* wrong to claim that laws have instances, but the way in which they have instances is not the same as the way that universal entities themselves have instances. This is the reason why he writes that we should use a different expression for instances of laws; for example, *cases* of a law (Lowe, 2006, p.172). However, it is not wrong to say that natural laws are universal truths, as aforementioned. So, I think that it is still sufficient to claim that they *may* have instances, as I illustrated by the rubber example.

As a result of the discussion of the problem of knowledge, the Aristotelian claim that knowledge is of universals is interpreted as meaning that scientific knowledge is of universals, and in the case of the neo-Aristotelian approaches, laws of nature consist of the relation of universal entities. It has been shown that laws of nature, from all different points of view, include universals. This is the reason why, firstly, I have considered a law of nature is, using regularity theory, Armstrong, and the main methodology of this paper, which is Lowe's Four-Category Ontology. According to this ontology, universal and particular entities are *mutually dependent*, and I claim that the Aristotelian *aporia* can be interpreted by focusing on the ontological relations between universals

and particulars. So, it is not wrong to say that substances are both universals and particulars, because they are *mutually dependent*.¹³⁷

Aristotelian particulars are prior to universals, existentially, because there are no uninstantiated universals, and each universal entity requests particular instances. However, universal entities have priority in the case of knowability. They can be known, primarily, and this is the reason why particulars are posterior. However, I have tried to show that the problem should be interpreted by focusing on their ontological relation. Even if it is accepted that knowledge is of universals, it does not mean that particular instances of them cannot be known. Lastly, Lowe summarises by saying, “Individuals may indeed be ‘ontologically prior’ to the sorts that they instantiate, in the sense that the existence of the individuals *grounds* the existence of their sorts, but not *vice versa*. But we can acknowledge such ‘existential grounding’ while at the same time insisting that individuals are no less essentially individuals *of some sort* than sorts are essentially sorts *of individuals*.” (Lowe, 2009, p.162).

5.4. Consequences: *Universality* Requirements on the Aristotelian Substantial Forms

Universals are the objects of knowledge and definition in Aristotelian ontology, and they are the objects of laws of nature in Loweian ontology in respect to the problem of knowledge. The question which arises at this point is, does this role of universal entities, especially *kinds*, make them substantial? What is the connection between the *universality* of substances and the main argument for the *aporia*, which is that Aristotelian substances are both universal and particular? I examine some of the arguments from both Aristotle and Lowe, to show why it is unavoidable to claim the *universality* of substances, before discussing the problem of individuation in Chapter 6.

In Aristotelian ontology, firstly, universals, in terms of their definition, are common features which are shared by different particular entities, for example, being white and being human, but there is a difference between these two universals, as mentioned before. The former is shared by all

¹³⁷ “The notion of ontological dependency is a complex and multifaceted one, capable of accommodating *both* the thought that sorts are, in *one* sense, asymmetrically dependent for their existence upon their individual instances, *and* the thought that, in *another* sense, there is a symmetrical essential dependency between individuals and sorts” (Lowe, 2009, p.163).

different objects *accidentally*, but the latter is an *essential* feature for its instances. Secondly, Aristotle is against the view of Plato that universals are such entities *one over many*. For Aristotle, they are instantiated by many entities, but they do not have *external existence* other than their instances. Universals in Aristotelian ontology are objects of science, knowledge and thought. In general, there are two fundamental Aristotelian doctrines that require the *universality* of the substantial form: that the form is definable, and that it is knowable (Scaltsas, 2010, p.90). How this issue is related to the problem of substance is shown by Aristotelian arguments as follows:

- (1) “Definition is the formula of essence, and essence must belong to substances either alone or chiefly and primarily, and in the unqualified sense” (*Met.* 1031a14).
- (2) “Definition and essence in the primary and simple sense belong to substances” (*Met.* 1030b5)

These two premises show that Aristotle uses essence to *refer* to substance. It seems that he has two distinct entities, substance and essence, but as mentioned before Aristotle uses all of these concepts interrelated with one another (for example, in the *Metaphysics* he uses *form*, *principle* and *cause* to correspond to substance). In this case, it is said that essence is a formula, which is a definition, and essence is the substance of each thing (*Met.* 1017b21). Aristotle claims this in Z6 as follows:

- (3) “Each thing is thought to be not different from its substance, and the essence is said to be the substance of each thing, and to *know* each thing, at least, is to know its essence” (*Met.* 1031a17-20).
- (4) “Definition is of the universal and of the form” (*Met.* 1036a29).

It is explicitly claimed that there is a *direct* correlation between definition and substance in all of these premises, and as mentioned above the essence of substance is what that substance is, and as such it is scientifically definable and, hence, *universal*, as shown by premise (4).

It is the general conclusion of the premises about the relation of definition and substance that the substantial form is the prime object of knowledge and definition, because according to premise (3), there is knowledge and definition of each thing when we know its essence. As an object of knowledge, essence is substance, and it is universal. However, concrete entities, or particular objects are the subjects of change and accident, since they have matter, and this makes them objects

of perceptual acquaintance, rather than knowledge (*Met.* 1029b32). This means that, as discussed above, scientific understanding requires systematic classification of the causes of things, and the objects of knowledge are universals and relations between universals, such as a law of nature. However, it does not mean that objects or particulars cannot be known, or that they are not the object of knowledge. Even, it is claimed that they are not knowable by their *particularity*; they are the objects of knowledge as an instance of a universal entity, which is the main object of knowledge and definition. For example, when it is asked *what* are Socrates and Callias, it is said that they are man, which is their kind, or their universal, substantial form, which is definable and knowable. This is because Socrates and Callias share the same *nature*, which means that the same substantial form can be abstracted from both (Scaltsas, 2010, p.142).

Kinds or substantial universals correspond to the question of *what it is* (that simply corresponds to premises (3) and (4)). For example, what Dobbin is is a *horse*, or what Socrates is is a human being. Horses and human beings are substantial universals which are instantiated by their instances, and they are essential *features* for their instances. What this means is that kinds can be called properties, for example, “being a human being”, though unlike many properties kindhood is thought of as an essential *property* of mine, or Socrates’. Kinds explain *what the object is*, they do not explain *how* the object is. For instance, a human being is contrasted with being pale, which is a *feature*¹³⁸ that does not express the nature or essence of an object (Galluzzo, 2015, p. 86).

However, it seems that according to the definition of *substancehood*, the claim of the *universality* requirements of substances faces a problem. The Aristotelian definition says that substances are neither said of a subject nor in a subject. As discussed in Chapter 2, this definition, in the *Categories*, signifies particulars, and it is the main conclusion of the *Categories* that primary substances are particular entities. This is because all entities, including substantial universals, depend on primary substances, except for primary substances themselves. Therefore, something that is defined as neither said of a subject nor in a subject should be independent. The problem is

¹³⁸ “Universals (substantial) express the essence of particular objects and so tell us *what* they are, and universals (non-substantial) do not express the essence of particular objects, and so tell us not what they are but *how* they are. So, membership of a kind is essential to an object, while properties are non-essential features of an object” (Galluzzo, 2015, p. 88).

how, when a substance is defined as an independent entity, can secondary substances, or kinds, the *Categories* are defined as entities dependent on primary substances? The solution is to allow that not all substances are independent.

Furthermore, it is useful to mention about the argument of the *reducibility* of substantial universals to non-substantial universals. If I am discussing the status of universals and their *substancehood* as an immanent realist, I *may* claim that all universals – both substantial and non-substantial – are ontologically *dependent* on their particular instances. However, substantial universals – kinds – and non-substantial universals – attributes – have *different types* of ontological dependence on their instances. A species, such as man, as a universal entity, does not depend for its existence upon the existence of this or that particular instance, but only upon there being *some* particular instances of it. In addition, a substantial universal also does not depend for its *identity* upon any of its particular instances, in the way that a mode depends for its identity upon the object which bears it (Lowe, 2006, p.169). So, I believe that the natures of kinds and attributes are not the same, and their relations with objects cannot be same. The essential – or generic – *dependency* of kinds on their instances is not problematic for their *substancehood*. Dobbin, for example, is essentially a horse, and accidentally white. It is not possible to claim that the relation between Dobbin and being a horse is same as the relation between Dobbin and its whiteness.

In general, universal entities are the objects of knowledge, and there is an explicit relation between substancehood and knowability in Aristotelian ontology, as shown by the premises given above, and this is the one of the reasons why the *universality* requirement is pivotal for the status of substances. Lastly, the question arises over why kinds are substantial, and how they cannot be reduced to non-substantial universals, as Armstrong claims.¹³⁹ In his account, Armstrong writes that, for example, the kind *electron* can be reduced to and hence should be identified with the conjunction of the fundamental *properties* of electrons. All there is to being an electron, for instance, is the possession of mass, charge and spin, which are literally identical in all electrons (Galluzzo, 2015, p.96). At this point, Armstrong explicitly denies that there is an independent (of attributes) and irreducible (to attributes) category of kinds, namely, *substantial universals*. It is true, and I agree with this issue, that electrons necessarily have these three properties, namely,

¹³⁹ This issue was discussed in Chapter 3, where the status of universal entities was mentioned in the Four-Category Ontology.

mass, charge and spin. The question which arises at this point is, what does have these properties? According to Galluzzo (2015, p.99), there are three alternatives: (1) a bundle of properties; (2) a bare particular; (3) a thing already falling under a certain kind. As an immanent realist and a proponent of Loweian ontology, I favour number three, and I disagree with the idea that they are a bundle of properties. So, kinds cannot be reduced to properties, and a particular entity which has some *properties* is nothing more than an instance of a certain kind.¹⁴⁰

Consequently, as mentioned at the beginning of Chapter 5, two problems remain in the case of the main *aporia* and my claim about this *aporia*. Namely, (1) the knowability of particular entities; and (2) the substancehood of universals. I claim that there is a *mutual dependency* between particular and universal entities, and this is the main suggestion with regards to the problem of whether Aristotelian substances are particular or universals. On the one hand, if they are particular, Aristotle explicitly writes that it is not possible to know anything, since universal entities are the object of knowledge and definition, and to know something it is necessary to know its essence. On the other hand, if they are universal, this does not fit the definition of substance, since a substance should be a *this*, not a *such*. I suggest that to resolve this problem and distinction it is necessary to analyse the ontological relation between universals and particulars, since I claim that these entities are *mutually dependent* entities. However, *mutual dependency* does not claim that universal entities somehow have external existence other than their instances. It simply argues that all particular substances are essentially instances of a universal kind. It refers to how universal entities depend on their particular instances, and their particular instances depend on their kinds as instances of that kind. So, kinds or substantial universals are the objects of knowledge, definition and laws of nature, as discussed, and their instances, substantial particulars, are the objects of knowledge as instances of their universal entities, and so they are known.

What gives *particularity* to particular entities, and what the role of their kinds is in terms of their unity and individuation, are the main problems discussed in the next chapter.

¹⁴⁰ The ontological relations between objects, properties and kinds were discussed in Chapter 4.

Chapter 6 - Particularity of Substances: The Problem of *Individuation*

The problem of the status of Aristotelian substances and whether they are universal or particular also contains the problem of individuation. The question of what the principle of individuation provides, and whether the principle is universal or particular, relates to the problem of substances. In this chapter, I discuss the problem of individuation from three versions: material, formal, and sortal. The first version addresses matter as the source of individuality of particular entities, e.g., Socrates, Dobbin, this table. According to the formal principle of individuation, the form of a particular entity is the individuator rather than its matter. These two aspects of the principle of individuation is discussed in Aristotelian ontology in connection with the status of substances, and the problem as to whether substances are universal or particular. The third version of the principle of individuation is, namely, sortal individuation. This version mainly argues that neither particular form nor the matter of particular entities is the source of individuality; rather it is the types, or kinds, of particular entities. This is discussed by the arguments made by Lowe.

These three versions of the principle of individuation are identified by the following questions: (1) what makes a particular entity different from another particular at any given time; (2) what makes a composite thing a single particular rather than a plurality? For example, this collection of limbs and organs constitutes a single particular, e.g., Socrates (Cohen, 1984, p.42); and (3) what makes a particular entity that is identified at one time and place identical to a particular that is identified at another time and place. Matter, form and kind are identified as the answers to these *senses*, respectively. In this chapter, I ask first whether matter or form is the principle of individuation in Aristotelian ontology, and secondly, kinds is discussed as the individuator of particular entities in Lowe's Four-Category Ontology.

Why is it necessary to discuss the problem of individuation regarding the status of Aristotelian substances in conjunction with *whether they are universal or particular*? The first reason is that there is a direct connection between the problem of individuation and the ontological status of substances, because it is asked whether there is a distinction between the principle of individuation, or *individuality*, and the *individuals' nature*, which signifies kinds or substantial universals. So, in the case of the main *aporia*, the relationship between a particular substance and its kind has

importance in terms of the individuality of that substance. The second reason is that substance or substantial entities can be characterised by certain basic features. For instance, substances are ontologically fundamental entities; they are not predicators of any object, but everything is predicated by them. In other words, substances are the *main ontological principles* that metaphysically sustain everything else. Moreover, characteristics are related to the first notion that substances are the *bearers* of all properties. A further characteristic refers to the persistency of substance; in other words, they should remain unchanged in spite of the possibility of their properties changing over a period of time. Lastly, substances are an essential principle of individuation and re-identification. It is explicit that the third and fourth characteristics of substances are related to the problem of individuation and unity. This is so because, especially in the case of the problem of universality and the particularity of substances, individuation and unity are of essential importance.

It is useful to examine three versions of individuation which are related to the problem of the status of substantial forms, namely the *material*, *formal*, and *sortal* individuation. The first and second theories correspond to Aristotelian passages in which Aristotle claims that the principle of individuation should be matter or form. Sortal individuation is when the principle which makes an individual an individual is its nature, which signifies its natural kind. I argue that on the Aristotelian side of the discussion, particular form itself, rather than matter, is at least in a sense the cause of individuality. Because particular form is an instance of a substantial (universal) form, it encourages the idea that substantial kind, which is instantiated by particular forms, is the source of individuality in another sense. This point is discussed from the Lowean perspective of individuation (6.3).

6.1. *Matter and Form as Principles of Individuation and a Defence of Particular Form*

The problem of individuation plays an important role in the debate about the Aristotelian *aporia*, over whether substances are universal or particular. This is so because, in terms of the definition of substance in Aristotelian ontology, as previously mentioned, *substance should be the principle of both unity, identity and individuation of entities*. For example, if X is the substance of Y, X should also be the principle of individuation and unity of Y. In relation to the main *aporia*, if it is

said that substances are particular (Socrates' itself, or the particular form of Socrates), then they are responsible for the individuation of particular entities. However, if they are universals (the species, or kind, of Socrates, e.g., man), their universal kinds individuate particular entities. The problem of individuation is quite a traditional debate, but it is related to the main *aporia*. Ultimately, this is the reason why I discuss this problem in this chapter in terms of the Aristotelian and Lowean ontologies, by asking what makes a particular the same as a particular instance of a kind over a period of time, and what constitutes the difference between two particular entities of the same kind at any given time? On the one hand, the Aristotelian ontology has two candidates for the principle of individuation, namely matter and form. On the other hand, according to Lowe, substantial particulars themselves, or substantial universals (kinds of substantial individuals), are the principles of individuation, the latter being sortal individuation.

Aristotle never offers an account the problem of individuation; however, many passages of his works are shown to form the bases of this discussion. As previously mentioned, what it is known about the nature of particulars is that it is in comparison with the nature of universals. Aristotle says, "I call universal that which is by its nature predicated of a number of things, and particular that which is not; man, for instance, is a universal, Callias a particular." (*De. In.* 17a37). According to this passage, particulars are not predicated of a number of things. Moreover, Aristotle provides further indication as to the nature of particulars in the *Categories*, and this passage makes it clearer that it means to say particulars are not predicated of number of things. He says, "things that particular and numerically one are, without exception, not said of any subject." (*Cat.* 1b6).¹⁴¹ So, particular entities are **not predicated of** a number of things, **nor said of** any subjects, and they are *one in number*. However, being one in number is not an exclusive feature for particular entities. One can, for example, count the species of a given genus as *one in number*.¹⁴² So, "one in number might serve the function of pointing out the special kind of unity and so, too, the kind of indivisibility pertaining to particulars" (Frede, 1987a, p.51). Aristotle, however, uses one in number and one in species in different senses. Two different instances of the same kind, for example, are one in kind or one in species, but they each are one in number.

¹⁴¹ He repeats the same in *Cat.* 3b12

¹⁴² Galluzzo (2010, p.85).

According to the *Categories*, particular entities, such as Socrates or Callias, are primary substances, and they are, as substances, not predicated of any object; however, everything else, such as properties, are predicated of them. In respect of the problem of individuation, particular entities themselves underlie all of their associated properties and, further, make up the properties of a single object. However, it seems that Aristotle was not satisfied with the *Categories* and, rightly, in the *Metaphysics*, he considers whether the substance that underlies everything else is *matter* or *form* (Frede, 1987b, p.64).

Aristotle never claims that *matter* individuates particular entities, or even discusses this problem explicitly. However, Aristotle has been interpreted as claiming that the principle of individuation is matter. Firstly, there are two important Aristotelian passages which claim that matter is the principle of individuation. In Z8, he writes:

“And when we have the whole, such and such a form in this flesh and in these bones, this is Callias or Socrates; and they are different in virtue of their matter (for that is different), but the same in form; for their form is indivisible” (*Met.* 1034a5).

This passage is of particular importance for the main *aporia*, as previously mentioned, especially for the supporters of *universal forms*. This is so because Aristotle explicitly says that two different particular entities are the *same in form*, so both Callias and Socrates are men.¹⁴³ What makes them two distinct particular entities is their matter. In other words, he is explicitly saying that they are different by virtue of their matter, so the question arises at this point over whether this means that matter is the principle which makes them *one in number*. It is explicit in this passage that Aristotle means Socrates and Callias are the same in species (their form), but they are not the same or one in number, because of their *material differences*. However, the argument of matter is the principle of individuation, is problematic because what makes an entity *single* should also be its substance. As mentioned, Aristotle rejects the idea that matter is substance.¹⁴⁴ According to this passage,

¹⁴³ See Chapter 1.

¹⁴⁴ “For those who adopt this point of view, then, it follows that matter is substance. However, this is impossible; for both separability and individuality are thought to belong chiefly to substance. So, form and the compound of form and matter would be thought to be substance, rather than matter” (*Met.* 1029a27).

Aristotle means that matter individuates in a weak sense, but it does not explain the *uniqueness* of the individuals in a strong sense (Gill, 1994, p.61).

The other passage from *Metaphysics*, in which Aristotle defines being one in number, species and genus, is as follows: “Again, some things are one in number, others in species, others in genus, others by analogy; in number those whose matter is one, in species those whose formula is one.” (*Met.* 1016b31). This is supportive of 1034a5. Therefore, again, Socrates and Callias are different by virtue of their matter, because they are one in number by virtue of their matter. According to these passages, matter seems to provide the principle of individuation because two entities which are numerically different, but are members of same species, can be separated in terms of their matter. In other words, we are able to distinguish this man – Socrates – from that man over there – Callias – in terms of their matter. Matter would provide for individuation only, *synchronically*, because it seems that it is the only principle that makes one individual different from another at any given time.

However, other scholars claim that Aristotle thinks that form, rather than matter, is the principle of individuation. The main reason for this is that matter is characteristically conceived of by Aristotle as sheer potential, having no attributes in and of itself, but rather to be that of which all attributes, and even form, are predicated. Therefore, matter lacks that attribute which is most proper to particulars: *thisness* (Regis, 1976, p.160). As mentioned previously, substance chiefly corresponds to something a this - determined. Matter is neither substance nor the principle of individuation. If it cannot be substance, matter is not the cause of a particular entity’s individuality, identity, or difference with respect to other particular entities. As mentioned above, matter cannot be the source of individuation when matter itself does not seem to be individual, and when it is conceived of as being pure potentiality.

What Aristotle has in mind is that the principle of individuation is the *form* of each particular entity; in other words, *the particular form*. The following question arises at this point, if Callias and Socrates share the same indivisible form, or they are the same in form or in their species, how can form account for their difference, or how is it possible to argue that this is the principle of individuation? The main reason to claim particular forms are the principle of individuation is the main conclusion of *Metaphysics*, especially *Zeta*, as previously mentioned. According to the *Zeta*’s

conclusions, Aristotle says that primary substances are particular forms because they meet all of the requirements of *substancehood*, and especially *thisness*. Moreover, he says that the primary principles of all things are the actual primary ‘this’ (or this is so because) and another thing which exists potentially, for the *individual* is the source of the individuals (*Met.* 1071a27-9). In this regard, some other passages¹⁴⁵ were mentioned in Chapter 1 as supportive arguments for their being particular forms.

According to the view of *formal individuation*, Socrates is an individual man because of his substantial form, his humanity. This is so because it is the form which determines what a thing is, and, naturally, it is the source of its individuality, or its individual unity (Gracia, 1984, p.44). This view is quite compatible with the supporters of particular forms, but it is problematic from the perspective that substantial form is general or universal.¹⁴⁶ According to the view of universal form, form is something which is common and sharable by many individuals. So, the problem arises again at this point as to how something common or non-individual can be the principle of individuation. I claim, the particular substantial form is an instance of a universal form. It is not wrong to claim that both universal form or substantial kinds, and particular instances of these kinds are the causes of individuality. The theory of *sortal* individuation will be discussed in section 6.3 of this chapter.

In general, according to Aristotelian ontology, the problem of individuation is summarised as follows: *whether this principle is matter or form*. I claim that matter cannot be the principle of individuation since it exists only potentially. In case of the second sense of individuation in particular, form is the principle of individuation as it is the only principle that makes a composite thing a single individual rather than a plurality. Moreover, a principle that individuates substances in this manner should be substantial, as indeed Aristotle mentions. In terms of the general conclusion of *Metaphysics Zeta*, primary substances are particular forms, and it is not wrong to claim that the principle of individuation is also particular forms, themselves.

¹⁴⁵ “Shape or form is that in virtue of which a thing is said to be a this,” (*De An.* 412a8-9; *Met.* 1042a26) and “an individual has a form and shape peculiar to it” (*De An.* 407b23).

¹⁴⁶ See Chapter 1.

6.2. *Form as the Principle of Unity*

Form is the principle of unity because matter, and all of its properties, can change but something which remains the same should be able to show us that an object is the same object despite any changes it may have undergone. Frede (1987b, p.64) claims that what makes an object the same object and the principle of unity is the particular form of that object. He writes, “Let us call the history of the changes an object has undergone, the history of the object; we shall want the substance of an object to be such that with reference to it we can explain how, despite all the changes, it is the history *of one* object.” (Frede, 1987b, p.64). Moreover, as a supporter of particular forms, he claims that substance is not only responsible for the account of the identity and unity of particular entities but is also itself particular.

Moreover, according to Frede (1987), it is also possible to claim that form is the principle of individuation. This is so because all particular forms have different histories, while their own properties might change. In the case of synchronic formulation, we are, at the same time, able to distinguish different particulars by their *form* since this form is realised in that matter, and another is realised in another matter. So, they are distinguished on the basis of the present stages of their histories (Frede, 1987b, p.69). At this point, Frede (1987) explicitly claims that form constitutes both the principle of unity and individuation. This is possible because the matter of a particular object in Aristotelian ontology can be identified and known only by means of the form of an particular object; as Frede writes: “For example, the gold of this statue can be identified as the gold of this statue but also as the gold of that crown which was melted down. Thus, we can distinguish forms on the basis of matter without getting involved in the circle that this matter, in turn, can be distinguished only on the basis of the objects and hence the forms.” (Frede, 1987, p.69)

When Frede (1987) claims that the principle of individuality is the form of a particular entity rather than matter, he is saying that something is realised in a particular form in a particular matter. This seems a bit problematic, because, according to this interpretation, Frede (1987) seems to assign priority for individuation to that particular entity *itself*, but not to form. In other words, the principle of individuation is *the form with that matter*. For example, the individuality of Socrates is due to

Socrates being a composite of this form in this matter, so the individuality of Socrates depends on the characteristics of an individual complex composite of form and matter (King, 2000, p.175).

Generally speaking, in terms of the primary question of this project I argue on the one hand that Aristotelian substances, or forms, are both particulars and universals; on the other I claim that the principle of individuation and unity is form. Hence, the question arises as to which form is the principle of unity – particular form or universal form? As a particular entity, Socrates is human by virtue of possessing a certain form which is universal, namely humanity. However, as an instance of that substantial universal form, as I claim, Socrates has a particular form which is particular to himself. The question related to the problem of *universality* and the *particularity* of substances which arises is whether Socrates and Plato each have an identical form of humanity, and is it possible to claim that that their universal form – or their kind – is the principle of individuation (King, 2000, p.160)?

6.3. Kinds as Principle of Unity and Individuation

In his ontology, Jonathan Lowe discusses the problem of individuation. As a substance ontologist and a realist, he asks the same questions regarding the *individuality* of particular entities. As discussed in Chapter 3, Lowe made some arguments regarding the criteria for being objects,¹⁴⁷ and with this in mind the questions that arise are as follows: in terms of a particular object, for example Dobbin, what confers Dobbin's individuality upon it? In virtue of what is Dobbin one thing, as distinct and differentiable from all other individual things? How does this provide Dobbin with his identity (Lowe, 2010, p.73)? Lowe discusses all of these problems in the case of another fundamental question: *what, fundamentally, is a particular substance?* This is because he notes that the answer to this question has a certain correspondence with *what is it that entities categorise in such an entity as being a particular substance?* In general, according to Lowe, the principle of individuation means something that 'individuates' an object, that is to say, whatever it is that

¹⁴⁷ Objects are: Individual, having determinate identity and countability, property-bearing entities (Lowe, 2006, p.76).

makes it the single object that it is – whatever it is that makes it one object, distinct from others, and the very object that it is as opposed to any other thing (Lowe, 2003, p.75).

Before discussing the problem of individuation in Lowe's ontology, it is useful to mention the term of individuation itself. Lowe (2007, p.521) writes that there are two meanings to it: first, there is the cognitive sense, which corresponds to the *singling out* of an object in thought. In this sense, the principle of individuation depends on a thinker, and Lowe (2007, p.524) writes that **a cognitive sense** of individuation is the singling out of an object in thought on a given occasion purely as an object of some specific sort.

According to the second meaning, that is, the metaphysical one, individuation is nothing but a sort of metaphysical determination relation between entities. In terms of this meaning, the individuator of individuals determines *which* object it is. These differences are quite important because he argues that the metaphysical principles of individuation are related to the criteria of identity, since it tells us what determines which object is that particular entity. It should be noted, however, that there is a distinction between the criteria of identity and the principle of individuation.¹⁴⁸ This is because, according to Lowe (2007, p.522), “the criterion of identity tells us what determines whether an object belonging to a given ontological category is or is not *identical with* another such object”. In terms of the criteria of identity, what he means is that identity is conceived of as a *relation*. However, in the case of individuation he is concerned with ‘identity’ in the sense of *essence*, and identity in this sense is *what it is*.

Furthermore, it should be noted that Lowe claims individuation in the cognitive sense presupposes individuation in the metaphysical sense, and the principle of individuation, for Lowe, signifies the question of what individuates a particular substance, and what makes it one particular substance of a certain kind and the very particular substance that it is. Below, I discuss some alternatives to the principle of individuation in Lowe's ontology in terms of his Four-Category Ontology; namely, the principle of individuation can be the object (a particular substance itself), kind (the sort or kind

¹⁴⁸ In another work, *The Possibility of Metaphysics*, Lowe (1998, pp.200-201) writes about the difference between the criteria of identity and the principle of individuation as follows: “A principle of individuation is a principle which tells us what counts as one instance of a given kind, for example, what counts as one tiger or one ship. A criterion of identity is a principle which tell us what makes for the identity or diversity of items of a given kind, for example what makes for the identity or diversity of this ship with that ship”.

of that particular substance), attributes (non-substantial universals), and modes (non-substantial particulars, inherences). Before discussing these four alternatives of the principle of individuation, it is useful to note how Lowe considers the form and the matter in terms of the principle of individuation.

First, Lowe claims that neither matter nor *form that is conceived of as universal* can individuate an individual entity. Matter cannot individuate because it lacks intrinsic unity (it may be said that this reason is identical to Aristotle's claims about the deficiency of matter's *thisness*). On the other hand, *form conceived as universal* is not the principle, because, for example, a spherical ball is not individuated by its spherical shape. This is because a spherical shape cannot be what makes the sphere the very sphere that it is, as other spherical balls are exemplified by the same universal sphericity (Lowe, 2003. p.81).¹⁴⁹ The question that arises at this point is: if the principle of individuation is neither the matter nor the form of a concrete particular, are they individuated by themselves, or by another principle? It is useful to discuss tropes (non-substantial particulars) and attributes (non-substantial universals) in greater detail as alternatives regarding the principle of individuation.

Secondly, Lowe rejects the bundle theory of individuation, according to which a particular substance is nothing more than its properties, which are exemplified by properties. However, it is suggested that an individual substance (e.g., Dobbin) is individuated by its properties conceived as universals (e.g., its whiteness). This idea is compatible with the supporters of bundle theory, since they claim that an individual substance is merely a bundle of certain properties. So, according to Lowe, as an opponent of bundle theory, it is not possible to claim that attributes individuate particular substances; hence, particular substances cannot simply be bundles of coinstantiated universals (Lowe, 2003, p.80)

The reason why attributes are not the principle of individuation is that there can be a plurality of particular substances that are identical to one another (Lowe, 2006, p.82). For example, whiteness is an attribute that exemplifies both Socrates and a table. It is not possible to claim that the

¹⁴⁹ It is explicit that Lowe uses exemplification as an ontological relation between an object and its form conceived as universal. It is the reason that I think at this point he means attributes or non-substantial universal by form, rather than substantial form or kinds. When he says that form is not the principle of individuation, what he means is non-substantial universals (attributes). In his example, *sphericity* is a property of a spherical ball.

whiteness, or indeed any other attributes, can individuate an object or a particular substance. This is not the explicit way of determining and separating an individual's identity. Furthermore, it was mentioned that attributes cannot show *what* an individual substance is; they indicate only *how* particular substances are.

Thirdly, it may be claimed that the intrinsic properties of particular substances, which are conceived of as particulars but not universals, namely *tropes*, or *modes*, might individuate them. Both the Aristotelian and Loweian ontologies include particular accidents, properties or modes.¹⁵⁰ In terms of these ontologies, it is possible to argue that two distinct particular substances cannot share the *very* same property. Whiteness, for example, which is conceived of as being universal, exemplifies both Socrates and a particular table, but the respective modes, which are instances of universal whiteness, belong to Socrates and the table as part of their distinct particular properties.¹⁵¹ The question that arises is if these particular properties are *peculiar* to the particular substances to which they belong, are they individuated by their intrinsic particular properties? According to the Four-Category Ontology, again, they cannot signify what a particular substance is or what makes that particular substance distinct from another, like non-substantial universal attributes. Furthermore, and most importantly, modes might be individicators, if only particular substances are bundles of tropes. It has already been claimed that the Four-Category Ontology is strongly opposed to the idea of bundle theory. Moreover, if it is true that modes are the principle of individuation, then objects cannot change their modes. It is quite absurd to change or choose to something that designates our identity, individuation and unity. At this point, the question arises, and Lowe (2003, p.85) asks, "if an object is more than just the sum of its properties what additional element does objecthood involve, over and above the possession of properties?". In other words, the non-substantial categories are eliminated the principle of individuation, attributes and modes cannot individuate objects.

Next, according to Lowe there are two more alternatives for the principle of individuation of particular substances. The first is particular substance, *itself*, and the second is its *kind*. On the one

¹⁵⁰ The Aristotelian perspective of individual properties or accidents mentioned in Chapter 2, and in Lowe's ontology modes discussed in Chapter 3 and 4.

¹⁵¹ The ontological relation between these categories mentioned in Chapter 4. I mentioned that whiteness *exemplifies* Socrates and this table. However, Socrates' whiteness, which is a particular instance of universal whiteness, *characterizes* Socrates.

hand, in the case of the first alternative, the question arises is, what does it mean that a particular substance is individuated by *itself*, or in other words, what is *itself*? *By itself* signifies either a bare particular,¹⁵² which signifies a particular without its properties, or an particular substance itself (its particular form, a concrete particular, or a composite matter with form) as the principle of individuation.¹⁵³ It is explicit from the ontology of Lowe that a bare particular is not the optimal alternative, since he rejected the existence of bare particulars or featureless substances.¹⁵⁴ On the other hand, the second alternative is that an object is individuated by itself but in another sense by its kind. This is because he argues that someone cannot single out an object merely as an object; it is necessary to reference that object as an object of this or that *kind*. So, the second alternative seems better for his ontology for a few reasons. Firstly, he identifies a particular substance not *qua* objects or particular substances; they are defined as objects of this or that kind. This is because of their ontological relation, as discussed in Chapter 4. A particular object is an instance of a kind, and a kind is instantiated by one or some particular objects. Hence, he writes that:

“It is often maintained that objects cannot be individuated merely *qua* objects, but only objects of this or that sort or kind” (Geach, 1980. Wiggins, 1980. Lowe, 1989 is cited in Lowe, 2003, p.89).

“For example, ‘That object is red’ always invites the question ‘Which object?’, to which an appropriate reply might be something like ‘that book’ or ‘that flower’, in which a sortal term is invoked. Sortal terms are general terms that convey sortal — or, as we may also call them, individuating — concepts. These can be contrasted with what may be called adjectival or characterizing concepts, which are conveyed by such general terms as ‘red’ and ‘square’” (Lowe, 2003, p.89)

¹⁵² Bergman (1967) is one of the supporters of bare particulars as the principle of individuation. He states that “a bare particular is not, and does not, have a property. Its only role is to be individuator. For example, this table is individuated by its very wood, and the wood is individuated by specific atoms and molecules, and so on until the bare particular is reached, which is thus the ultimate individuator” (Bergman, 1967, pp. 24-45, as cited in Moreland, 1998, p.254)

¹⁵³ In principle, according to Lowe, the particular form and the concrete object are the same entity. As mentioned before, Lowe writes (1998, pp.214-215) that the primary substances of the *Categories* are individual concrete objects, such as a particular horse or a particular house. However, in *Metaphysics* such things are deemed to be combinations of matter and substantial form, which means the primary substances are no longer the concrete individual itself; it is assigned to substantial forms. He argues that it is possible to assign the status of the primary substance *both* to individual concrete objects *and* to substantial forms because it is possible to identify items of these types.

¹⁵⁴ This is related to the rejection bundle theories, explicitly, because he writes that a particular substance is more than just a collection of particular properties (Lowe, 2006, p.97).

According to Lowe, the individuator of a particular substance should explain why that particular substance is the very object that it is. I mentioned previously that he defines a substantial universal or kinds as the answer to the question: what is a particular substance? For example, what is Socrates? He is a man, and it seems not completely absurd to claim that the individuator of Socrates is its kind, e.g., man. However, if it is claimed that the principle of an individuation is its kind, a number of problems arise. As discussed above, in terms of the Aristotelian perspective of the problem of individuation, it is claimed that matter cannot be the individuator of an object because it is not something that is numerically one, or *a this*. The reason to claim that the principle of individuation in Aristotelian ontology is the particular form is that it corresponds to all of the requirements, such as *thisness*, *haecceities*, or *peculiarity*. How can it be argued that *kind* is the principle of individuation?

In general, some reasons to claim that kinds are the principle of individuation can be summarised as follows.¹⁵⁵ (1) The definition of particulars: as discussed in Chapter 5, a particular entity is identified as an instance of a kind. In other words, an object is an entity that, quite literally, counts as one entity of some kind, and being a member of a kind is the main factor for it to possess a *unity*. In terms of this issue, Lowe (2003, p.335) writes that, “only individuals are countable. Each particular entity counts as one - that is, as one thing of its kind. No particular entity can count as more than one”. In particular, in the case of the problem of individuation, which is metaphysically conceived, and in connection with the first reason, (2) a particular substance is always defined as a *this-such*; being a particular is dependent upon being a *thing* of a kind. In terms of the essentialist interpretation of the Aristotelian ontology, primary substances are dependent on secondary substances, and objects depend on their kinds in the language of the Four-Category Ontology. Moreover, it is claimed that with regards to individuation, which is cognitively or epistemologically conceived, the individuating of singling out an object depends on a sortal or its kind, and kinds determine what kind of thing that object is.¹⁵⁶

¹⁵⁵ The ontological relation between particulars and universals (instantiation) was discussed in Chapter 4. Moreover, it should be noted that Lowe never used the word *principle* for kinds because they are real entities. Kinds are real entities and they are individuator of their own instances. In the case of the problem of individuation, I, still, prefer to call them as principle of individuation.

¹⁵⁶ What Lowe means by sortals or kinds is as follows: he claims that there are three kinds of item that signify what sortal terms are. The first is substantive general terms, like being a cat, or being an apple. The second is sortal concepts

The first two reasons - why the principle of individuation is *kind* - correspond to the dependency problem between a particular object and its kind. I call this dependency *sortal dependency* for the problem of individuation. So, according to Lowe, particular objects are dependent on their sortal, and their kinds **and** universals are dependent on particular things, as well. (I mentioned previously that this dependency is two-way, and universals do not have an external existence, e.g., Platonic Forms, but within the individuals of the kind.) For the metaphysical principle of an individuation in particular, the sortal dependency thesis claims that the existence of a particular is always the existence of a thing of a specific kind. According to reason (3), Lowe (1998, p.225) explicitly writes that the principle of individuation is not the matter but the form of a particular object. He says: “*As a consequence, it seems to me that matter is certainly not a ‘principle of individuation’ of individual concrete things (things like tigers and ships): on the contrary, their form is what ‘individuates’ such things*”. The problem at this point, as mentioned, is what does he mean by form as being universal or particular? This naturally arises because Lowe simply accepts the universal and particular forms and, as I noted at the beginning, whether the principle is a particular or a universal form signifies whether it is the object itself or its kind. What he claims in the case of the principle of individuation is, again, *being a member of a certain kind*,¹⁵⁷ since he continues as follows: “It is the form of a tiger which determines its status as being a *single* thing of a certain kind, a *unitary whole* composed of suitably organized parts” (Lowe, 1998, p.225).

In general, in terms of these three reasons, for Lowe, the principle of individuation is not the matter. This is because particular entities can, and do, change their matter; for the same reason, modes and attributes are not the principle of individuation. Moreover, as a realist, according to Lowe, there is no distinction between particularity and particulars’ natures, where the latter is their *substantial universal form*. This means that the nature of a particular is the essential characteristics of that particular, and these characterize a particular as being a particular. According to this view, for

such as the concept of a cat. Lastly, it corresponds to kinds of things, for example the kind cat, which is instantiated by particular cats (Lowe, 2007, p.515). When Lowe says that an individual substance is individuated by its sorts, he mentions that they are individuated by their kinds, which are instantiated by themselves. In other words, as a principle of individuation, kinds or sortals should be separated from sortal terms and sortal concepts. As a realist, Lowe believes that there are substantial universals and they are not only concepts or terms.

¹⁵⁷ “Tigers are differentiated by their spacetime location, which is clearly itself a consequence of their *form*, since it has to do with what *kind* of thing they are” (Lowe, 1998, p.226).

example, there is no distinction between Peter and *man*, which is what characterizes Peter as Peter (Gracia, 1984, p.35).

So, according to Lowe, and in terms of the principle of mutual-dependency, kinds furnish both the synchronic and diachronic criteria of individuation. According to the former, a particular entity is considered an instance of its kind, and this point is related to the fact that there cannot be more than one particular object of a certain kind in one place and at the same time. According to the latter, an object, at different times, is the same object of its kind. For example, Peter is a man at t1, and he will be the same man, or an instance of the same kind, at t2. It seems that kinds are useful in handling the question of *individuation*, and it is not wrong to claim that things are particulars because they are instances of kinds (Galluzzo, 2015, p. 93)

6.4. Consequences - *Particularity* Requirements on the Aristotelian Substantial Forms

Above, I discuss the problem of individuation in terms of the *particularity* of substances. The problem of substances, whether they are universal or particular, is related to the problem of whether the principle of individuation is the object itself (particular) or its kinds (universal). At the beginning, this problem was discussed in terms of the Aristotelian ontology, whilst according to the Loweian perspective, some alternative versions of the principle of individuation were mentioned. Principles of individuation are important for discussing the status of substances for substance ontologies because a substance of a particular entity has an essential role in identifying that substance as being particular; in other words, *the substance is the principle of individuation* as well.

There are two alternatives in Aristotelian ontology for the principle of individuation for particulars: the first is the matter, and the second is the form. As mentioned, the form is conceived as the particular form. According to Aristotle, the principle of individuation is the particular form, rather than matter, since matter lacks unity; in fact, it does not actually exist, and thus it cannot be the *individuator*. In Lowe's ontology, the problem of individuation discussed in terms of his Four-Category Ontology. This means that there are four alternatives for being an individuator, namely on the one hand, substantial entities: (1) object itself - particular substances -; and (2) kinds -

universal substances, and on the other hand, non-substantial entities: (3) attributes - non-substantial universals -; and (4) modes -non-substantial particulars. When all these four categories are taken into account, the same reason why matter cannot be an individuator is true for (3) and (4); hence, they are not *substantial*. So, in terms of the ontology of Lowe, the problem is whether the principle of individuation is the object itself or its kind.

It should be noted that this question can also be asked as follows: Is the principle of individuation a particular form or a universal form? It is explicit and mentions that kinds are substantial-universal forms, and Lowe writes that when it is said that primary substances are objects, this also means that they are particular forms:

“According to some Aristotle scholars, Aristotle changed doctrine concerning primary substance between composing the *Categories* and composing the *Metaphysics*. By this account, the primary substances of the *Categories* are individual concrete objects or things, such as a particular horse or a particular house, whereas in the *Metaphysics* such things are deemed to be combinations of matter and substantial form and as such not themselves primary substances, the status of primary substance now being assigned to substantial forms. I also want to argue that, in a perfectly good sense, it is possible to assign the status of primary substance *both* to individual concrete objects *and* to substantial forms – because it is possible to identify items of these types” (Lowe, 1998, pp214-215).

It is possible to identify primary substances as both concrete particular, in the sense of the *Categories*, and the form of these particular entities, the particular form, in the sense of the *Metaphysics*. With regards to the problem of individuation, when he asked whether the principle of individuation is the object itself or kinds, this means that he had two main alternatives for the principle of individuation, namely, the *particular form* and the *universal form*. In general, it was discussed that the principle is the particular form in Aristotle, and the universal form in Lowe, above. However, because of the ontological relation between the particular and universal forms, it is said that they are both individutors in Lowe’s ontology.

It is useful to summarise the problem as follows:

- Aristotle asks, “**what makes an object an individual?**”. In *Metaphysics* specifically matter or *form* conceived that a particular can be an individuator. I claim that the principle of individuation is *particular forms* rather than matter. As he writes in Z17: “And why is this individual thing, or this body in this state, a man? Therefore, what we

seek is the cause, i.e., the form, by reason of which the matter is some definite thing; and this is the substance of the thing” (*Met.* 1041b8-11).

- Lowe asks, in the case of the problem of individuation, “**what makes an object an instance of a kind?**”. In the *Four-Category Ontology*, particular entities or objects are primary substances and they are defined as an instance of a kind.¹⁵⁸ So, the problem of individuation in his ontology consists of what makes an object a particular or an instance of a certain kind,; as I mentioned, it is the **object** itself in a sense, and the **kind**, in another sense. The main reason is their ontological relation (instantiation), and Lowe (2013, p.200) explicitly writes that particular objects or primary substances are nothing other than *particular forms*, or *form-particulars* – particular instances of **universal forms**.

The problem of individuation and the particularity of substances contains three main versions, as mentioned at the beginning of the chapter. In the sense of material individuation, matter is what makes one individual entity different from another individual entity at a given point in time. On the other hand, (particular) form is what makes a composite thing a single entity, whilst universal form is what makes a particular that is identified at one time and place identical to a particular that is identified at another time and place. I argue that matter is not the principle of individuation alone since it lacks intrinsic unity. And again, what makes Socrates different from Callias is Socrates’s individual form in Socrates’s body. In this case, matter is not the principle, but the distinctive feature of those particulars. So, all particular entities are individuated, sortally, by their kinds, and their own peculiar forms.

In the cases of both Aristotelian and Lowean ontologies, the problem of individuation can be summarised as follows. For the principle of individuation metaphysically conceived: Being a particular entity, what Aristotle calls, corresponds primary substances, and these depend on being a thing of some nameable kind, e.g., Aristotle’s secondary substances. In terms of the principle of

¹⁵⁸ “The Four-Category Ontology, unlike the hylemorphic ontology, does not include the category of *matter*. It might be thought that it also lacks the category of *form*, but this is not in fact the case. I believe that form, conceived as a type of universal, and more perspicuously termed *substantial* form, is really nothing other than *secondary substance* or *substantial kind*” (Lowe, 2013, p.200).

individuation epistemologically conceived, our capacity for individuating or singling out a thing is dependent on a sortal concept that determines what kind of thing it is that is being singled out.

As a conclusion, Aristotelian substances are both universal and particular. They are universal because they are object of knowledge and definition, as shown in Chapter 5. They are particular because substance should be something neither said *of* a subject nor *in* a subject. However, when the ontological relation between universal and particular entities is considered, it is possible to claim that they are both universal *and* particular. In the case of the principle of individuality, particular forms, as the primary substance, are what makes an object a particular object. In *Metaphysics*, Aristotle says, “we are seeking the cause, and this is the form, through which the matter is a thing” (*Met.* 1041b7). In connection with the problem of individuation, Aristotle concludes that the cause of being one is identical to the cause of “that which is one”, that is, the thing itself. In this sense, we can understand that form is the principle of individuation because it is the substance of a thing (Lloyd, 1970, p.523). According to the Loweian ontology, the particular form and its substantial kind, namely the universal form, are *both* the principle of individuation. However, it is also not wrong to claim that, in Lowe’s ontology, universality conquers particularity in the case of being the principle of individuation.

CONCLUSION

The ontological status of substances and whether they are universal or particular is one of the main problems in Aristotelian substance theory. This is one of the huge controversies for Aristotelian scholars. Some claim that substances are particular, but some consider them to be universals. Alternatively, some scholars say that they are neither universal nor particular or are both. I have explored the fact that many scholars who claim that substances are both universals and particulars have discussed this problem in the case of the definition of substantiality. Moreover, the general conclusion they have reached is that universals are substances, potentially, but particular entities are actual substances. The main claim of this project is that it is necessary to discuss the status of substances by focusing on the ontological relation between universal and particular entities. Furthermore, the requirements of particularity and universality are significant. This is so because the primary reason for this debate is basically to discuss how Aristotle locates universals and particulars in his ontology. Therefore, I argue that the ontological relation between these entities and their own status in Aristotelian ontology matters when discussing and resolving the nature of substances.

It is the traditional tendency that universals and all other categories or entities in Aristotle's ontology, especially the ontology in the *Categories*, are dependent on primary substances or particular entities. However, I argue that in the *Categories*, according to Aristotle's essentialist approach, primary substances also depend on secondary substances, so there is mutual-dependency between primary and secondary substances (or substantial particulars and substantial universals). Aristotle never discusses this issue in the *Categories*, but he argues implicitly that the question of *what primary substances are*, indeed, corresponds to secondary substances e.g. the species of primary substances. At this point, it is useful to mention again why the Four-Category Ontology is quite significant when discussing the status of Aristotelian substances, especially as a supporter of the view that both particular and universal entities are substantial. Furthermore, Lowe claims that it is useful to distinguish substantial entities as substantial particulars and substantial universals rather than primary and secondary substances, because of their ontological relation. In a realist sense, universal entities depend on particular entities, because there is no un-instantiated universal entity. In an essentialist sense, however, particular entities depend on their kinds, necessarily, because they are nothing but instances of their kinds.

Aristotelian substance theory has two problems. The first is whether Aristotle is consistent or inconsistent on the status of substance in his works. According to incompatibilists, the conclusions of the *Categories* and *Metaphysics Zeta* are different, because they address two different results in terms of what substance is. Namely, concrete particulars themselves are primary substances for the former, but the forms of these concrete particulars are substances for the latter. I argue Lowe's view that Aristotle is not inconsistent is right, for two reasons. First, it is explicit that Aristotle uses different methodologies when discussing the status of substances in the *Categories* and *Metaphysics*. So, I claim that he uses two different methods, but does not reach two different conclusions. Secondly, as Lowe mentions, both particular entities and their forms are analysed as the very same entity *by definition*. The second significant problem in Aristotelian ontology and the essential investigation of this project is specifically about forms and their ontological status, as to whether they are universal or particular. Many Aristotelian scholars, who have been analysing this specific problem, are either stuck in the way of discussing whether Aristotle is consistent or inconsistent, or whether primary substances are actual or potential substances. In other words, many critics only take into account the historical background of the problem, and they rule out the ontological relation between particular and universal. This is so because, first, a contemporary approach and a new conceptual background which signifies the historical usage of concepts is useful for this significant debate. Secondly, as I mention, the status of universals, particulars and their ontological relations has changed the perspective to the problem of substance in Aristotle's work.

In general, the main contribution of this project is find out an alternative solution to the question of whether Aristotelian substances or forms are universals or particulars. For the formulation of this problem and as a methodology, I follow two basic steps. According to the first, namely the conceptual base of the problem, three concepts of the main problem have been analysed in terms of both Aristotelian and Lowean ontologies. These terms are *form*, *universal* and *particular*. According to the second method, what I call the historical base of the problem, I analyse the problem in relation to these three concepts in terms of both the historical background and the contemporary approach. Briefly, the project has taken form as follows: in the first and second chapters, I discussed the problem in terms of the status of forms, universals and particulars in Aristotelian ontology; in the third and fourth chapters, the same concepts were analysed in terms

of a neo-Aristotelian approach, namely the Four-Category Ontology. As a specific point, I discuss the problem within the scope of these three main concepts, but the ontological relation between particulars and universal entities is a significant point in terms of the claim that substances are both universal and particular. This is why the ontological relations are mentioned in chapter two and chapter four, for the historical background and a contemporary approach respectively. In the fifth and sixth chapters, universality and particularity requirements were analysed in Aristotelian and Lowean ontologies, in respect of the problem of knowledge, and laws of nature, and the problem of individuation, respectively.

Particular entities are instances of their kinds, e.g. Socrates is a particular entity and he is an instance of a human being. Particular substantial forms are particular entities, and they are instances of universal substantial forms. By definition, there is a mutual-dependency between particular forms and universal forms, in other words, the ontological relationship between them is symmetrical rather than asymmetrical. In terms of the traditional approach, however, primary substances, or particular entities, are independent, and all other entities, including their substantial kinds, are dependent on them. However, I discuss the problem using another approach, and according to this approach not only are kinds dependent on their instances, but those instances also depend on their kinds. This mutual-dependency corresponds to the arguments that primary substances as particulars are instances of substantial universals; hence, Aristotelian forms are both universal and particular.

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